

07/08/2007,10531330c.trn

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PASSWORD:

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SESSION RESUMED IN FILE 'HCAPLUS' AT 14:30:55 ON 07 AUG 2007
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COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	187.05	901.08
DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE ENTRY	TOTAL SESSION
CA SUBSCRIBER PRICE	-27.30	-55.38

=> file reg

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	187.05	901.08
DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE ENTRY	TOTAL SESSION
CA SUBSCRIBER PRICE	-27.30	-55.38

FILE 'REGISTRY' ENTERED AT 14:31:11 ON 07 AUG 2007
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STRUCTURE FILE UPDATES: 6 AUG 2007 HIGHEST RN 944108-38-7
DICTIONARY FILE UPDATES: 6 AUG 2007 HIGHEST RN 944108-38-7

New CAS Information Use Policies, enter HELP USAGETERMS for details.

TSCA INFORMATION NOW CURRENT THROUGH December 2, 2006

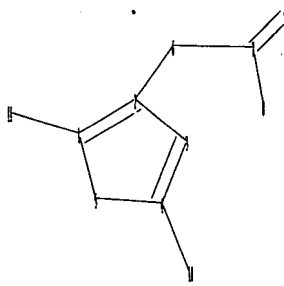
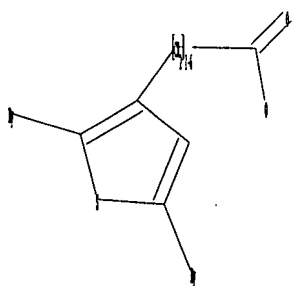
Please note that search-term pricing does apply when
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REGISTRY includes numerically searchable data for experimental and
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=>

Uploading C:\Program Files\Stnexp\Queries\10531330c.str



chain nodes :
6 7 8 9 10 11
ring nodes :
1 2 3 4 5
chain bonds :
1-11 2-6 4-10 6-7 7-8 7-9
ring bonds :
1-5 1-2 2-3 3-4 4-5
exact/norm bonds :
1-5 1-2 1-11 2-3 3-4 4-5 4-10 7-8 7-9
exact bonds :
2-6 6-7

Match level :
1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:CLASS 7:CLASS 8:CLASS 9:CLASS 10:Atom
11:Atom

Generic attributes :

10:

Saturation : Unsaturated

Number of Carbon Atoms : less than 7

Type of Ring System : Monocyclic

11:

Saturation : Unsaturated

Number of Carbon Atoms : less than 7

Number of Hetero Atoms : Exactly 1

Type of Ring System : Monocyclic

Element Count :

Node 11: Limited

S,S1

C,C4

O,O0

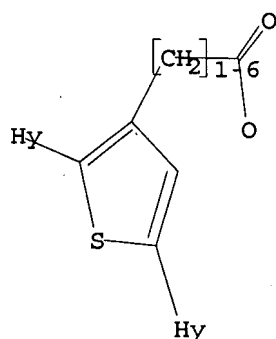
N,N0

L13 STRUCTURE UPLOADED

=> d 113

L13 HAS NO ANSWERS

L13 STR



Structure attributes must be viewed using STN Express query preparation.

=> s l13

SAMPLE SEARCH INITIATED 14:31:31 FILE 'REGISTRY'
SAMPLE SCREEN SEARCH COMPLETED - 5337 TO ITERATE

37.5% PROCESSED 2000 ITERATIONS 1 ANSWERS
INCOMPLETE SEARCH (SYSTEM LIMIT EXCEEDED)
SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS: ONLINE **COMPLETE**
BATCH **COMPLETE**
PROJECTED ITERATIONS: 102360 TO 111120
PROJECTED ANSWERS: 1 TO 151

L14 1 SEA SSS SAM L13

=> s l13 full

FULL SEARCH INITIATED 14:31:36 FILE 'REGISTRY'
FULL SCREEN SEARCH COMPLETED - 105915 TO ITERATE

100.0% PROCESSED 105915 ITERATIONS 71 ANSWERS
SEARCH TIME: 00.00.05

L15 71 SEA SSS FUL L13

=> file hcaplus

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	172.10	1073.18
DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE ENTRY	TOTAL SESSION
CA SUBSCRIBER PRICE	0.00	-55.38

FILE 'HCAPLUS' ENTERED AT 14:31:46 ON 07 AUG 2007
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FILE COVERS 1907 - 7 Aug 2007 VOL 147 ISS 7
FILE LAST UPDATED: 6 Aug 2007 (20070806/ED)

New CAS Information Use Policies, enter HELP USAGETERMS for details.

This file contains CAS Registry Numbers for easy and accurate substance identification.

=> s l15

L16 37 L15

=> d ed abs ibib hitstr tot

L16 ANSWER 1 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN

ED Entered STN: 21 Feb 2007

AB Two novel polynorbornenes functionalized with electronically active conjugated oligomer units in the side chain were synthesized by the ring-opening metathesis polymerization (ROMP) method. Both polymers showed good optical characteristics, thermal stability, film-forming properties, and interesting electrochem. properties. The photophys. and redox behaviors of the polymers are markedly different due to variation in the structure of the pendant oligomers. The polymer with Ph end-capped oligothiophene co-oligomer in the side chain showed much higher stability toward electrochem. oxidation than the one with a sexithiophene in the side chain.

This was demonstrated by in-situ study of the changes in absorption spectra of the polymer films while varying the potential in electrochem. expts. During the p-doping process, the polymer with Ph end-capped oligothiophene co-oligomer in the side chain exhibited highly reversible changes in its absorption peaks when monitored at 430 and 650 nm, and the p-doping/dedoping processes can be repeated many cycles. In sharp contrast, the polymer with a sexithiophene side chain was shown to be electrochem. unstable under the same conditions. Single-layer photovoltaic cells were fabricated with the polymers as the active

organic layer, and their relative performances were compared. These single-layer devices showed relatively large open-circuit voltage and moderate short-circuit current. In addition, the solar cell fabricated from the polymer with Ph end-capped oligothiophene co-oligomer showed better device

stability under ambient conditions than that from the one with a sexithiophene side chain, which can be attributed to the higher stability of Ph end-capped oligothiophene co-oligomer compared to that of the sexithiophene.

ACCESSION NUMBER: 2007:189412 HCAPLUS

DOCUMENT NUMBER: 146:442446

TITLE: Synthesis, Characterization, and Properties of Homopolymers Functionalized with Oligothiophene Derivatives in the Side Chain

AUTHOR(S): Zhao, Chunchang; Zhang, Yong; Pan, Shanlin; Rothberg,

Lewis, Ng, Man-Kit
CORPORATE SOURCE: Department of Chemistry and Department of Chemical Engineering, University of Rochester, Rochester, NY,

14627, USA
SOURCE: Macromolecules (Washington, DC, United States)

(2007),
40(6), 1816-1823

CODEN: MAMOBX, ISSN: 0024-9297

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal

LANGUAGE: English

IT 934498-93-SP 934498-96-1P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

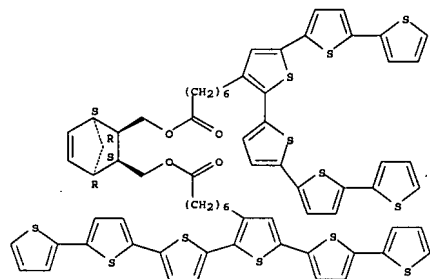
(monomer; preparation, characterization, and properties of homopolymers

functionalized with oligothiophene derivs. in side chain)

RN 934498-93-8 HCAPLUS

L16 ANSWER 1 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN

(Continued)



IT 934498-97-2P 934498-98-3P 934498-99-4P

934498-00-0P

RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or

engineered material use); PREP (Preparation); USES (Uses)

(preparation, characterization, and properties of homopolymers

functionalized with oligothiophene derivs. in side chain)

RN 934498-97-2 HCAPLUS

CN [2,2':5',2'':5'',2''':5'''-Quaterthiophene]-3'''-heptanoic acid,

5,5'''-diphenyl-,
3''',3''''-bis-[(1R,2S,3R,4S)-bicyclo[2.2.1]hept-5-ene-2,3-

diylbis(methylene)] ester, rel-, homopolymer (CA INDEX NAME)

CM 1

CRN 934498-93-8

CMP C79 H70 O4 S8

Relative stereochemistry.

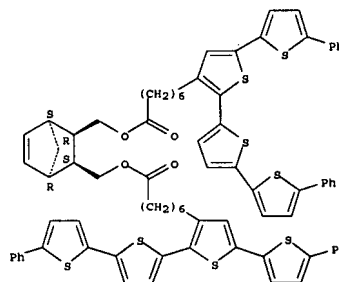
L16 ANSWER 1 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)

CN [2,2':5',2'':5'',2''':5'''-Quaterthiophene]-3'''-heptanoic acid,

5,5'''-diphenyl-,
3''',3''''-bis-[(1R,2S,3R,4S)-bicyclo[2.2.1]hept-5-ene-2,3-

diylbis(methylene)] ester, rel- (CA INDEX NAME)

Relative stereochemistry.



RN 934498-96-1 HCAPLUS

CN [2,2':5',2'':5'',2''':5'''-Quaterthiophene]-3'''-heptanoic acid,

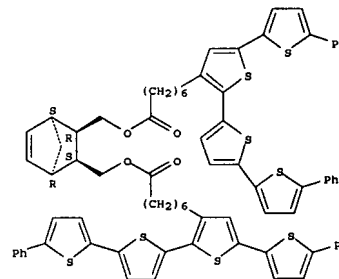
5,5'''-diphenyl-,
3''',3''''-bis-[(1R,2S,3R,4S)-bicyclo[2.2.1]hept-5-ene-

2,3-diylbis(methylene)] ester, rel- (CA INDEX NAME)

Relative stereochemistry.

L16 ANSWER 1 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN

(Continued)



RN 934498-98-3 HCAPLUS

CN Poly[[(4R,5S)-4,5-bis[[[7-[(5,5'''-diphenyl)-2,2':5',2'':5'',2''':5'''-

quaterthiophen]-3'''-yl]-1-oxoheptyl]oxy)methyl]-1,3-cyclopentenediyl]-1,2-

ethenediyl], rel- (CA INDEX NAME)

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

RN 934498-99-4 HCAPLUS

CN Heptanoic acid, 7-[2,2':5',2'':5'',2''':5'''-Quaterthiophen]-3'''-yl-,

1,1'-bis-[(1R,2S,3R,4S)-bicyclo[2.2.1]hept-5-ene-2,3-

diylbis(methylene)] ester, rel-, homopolymer (CA INDEX NAME)

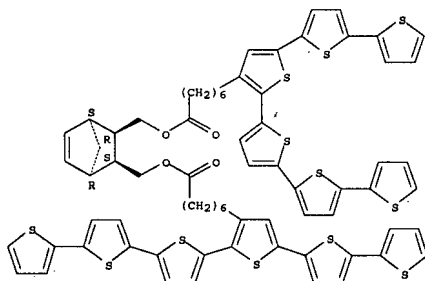
CM 1

CRN 934498-96-1

CMP C71 H62 O4 S12

Relative stereochemistry.

L16 ANSWER 1. OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)
CN [2,2':5'',2'':5'',2'':5'',2'':5''-Sexithiophene]-3''-
heptanoic acid (CA INDEX NAME)



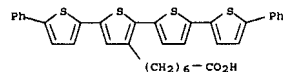
CN
Poly[[{(4R,5S)-4,5-bis[{(1-oxo-7-[2,2':5',2'':5'',2''':5''',2''':5'''',2''':
'''-sexithiophen]-3'''-ylheptyl)oxy)methyl]-1,3-cyclopentanediy]l]-1,2-
ethenediyl], rel- (CA INDEX NAME)

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

(preparation, characterization, and properties of homopolymers functionalized with oligothiophene derivs. in side chain)

CN [2,2':5',2'':5'',2'''-Quaterthiophene]-3'''-heptanoic acid,
5,5'''-diphenyl- (CA INDEX NAME)



RN 934498-95-0 HCAPLUS

AB A comparative anal. of the copolym. mechanism of an electroactive terthiophene and a carbazole moiety of a conjugated polymer precursor was carried out using electrochem. and hyphenated electrochem. methods. Five different precursor polymers were first synthesized and characterized using NMR, IR, and GPC. The polymers include homopolymers of individual electroactive groups, poly[ethyl-2-(2,5-di(thiophen-2-yl)thiophen-3-yl)ethyl methacrylate] (P3T) and poly[(2,5-bis(carbazol-9-yl)ethyl methacrylate] (P2-CB2), and different copolym. of 25%, 50%, and 75%

Since the oxidation potential of terthiophene and carbazole lie close to each other, highly cross-linked copolymer films of varying extent were produced

depending on the composition. The copolymn. extent was dependent primarily on the amount of the terthiophene, which in this case provided for a more efficient carbazole polymerization and copolymn. than with just carbazole alone.

(homopolymer). The extent of copolymn., electrochromic properties, and viscoelastic changes was quant. studied using a number of hyphenated electrochem. techniques: spectro-electrochem., electrochem. quartz

microbalance studies (EC-QCM), and electrochem. surface plasmon resonance spectroscopy (EC-SPR). Each technique revealed a unique aspect of the electrocopolymn. behavior that was used to define structure-property relationships and the deposition/copolymn. mechanism.

DOCUMENT NUMBER: 140103320
TITLE: Quantitative electrochemical and electrochromic behavior of terthiophene and carbazole containing conjugated polymer network film precursors: EC-QCM

and

AUTHOR(S) : Taranekar, Prasad; Fulghum, Timothy; Baba, Akira; Patton, Derek; Advincula, Rigoberto

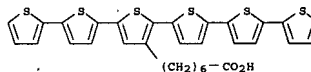
CORPORATE SOURCE : Department of Chemistry and Department of Chemical Engineering, University of Houston, Houston, TX, 77204-5003, USA

DOCUMENT TYPE: Journal

IT 163463-80-7P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
(Reactant or reagent)

(redox electrochem. and electrochromism of prepared terthiophene and carbazole containing conjugated homo- and co-polymer networks)

CN [2,2':5',2''-Terthiophene]-3'-acetic acid, ethyl ester (CA INDEX NAME)

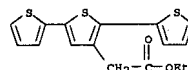


REFERENCE COUNT: 42 THERE ARE 42 CITED REFERENCES AVAILABLE FOR THIS

FORMAT

RECORD. ALL CITATIONS AVAILABLE IN THE RE

L16 ANSWER 2 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)



REFERENCE COUNT: 52 THERE ARE 52 CITED REFERENCES AVAILABLE FOR THIS

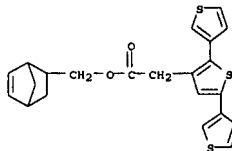
FORMAT

RECORD. ALL CITATIONS AVAILABLE IN THE RE

L16 ANSWER 3 OF 37 HCAPLUS COPYRIGHT 2007 ACS ON STN
 ED Entered STN: 10 Aug 2006
 AB Described are conjugated polymer fibers prepared by the method comprising electrospinning a solution of intrinsically conductive polymer, intrinsically conductive polymer precursor, or a combination thereof to form a fiber; and crosslinking the intrinsically conductive polymer, intrinsically conductive polymer precursor, or a combination thereof. The conjugated polymer fibers, which can be nanofibers, may be formed into structures in the form of a nonwoven mat or a mat comprising aligned conjugated polymer fibers, or formed into an article such as an electrochromic window or display device. A method of preparing a micropattern of conjugated polymer fiber is further disclosed.
 ACCESSION NUMBER: 2006:792922 HCAPLUS
 DOCUMENT NUMBER: 145:239247
 TITLE: Electrically conductive conjugated polymer fiber, preparation and use thereof
 INVENTOR(S): Mather, Patrick T.; Sotzing, Gregory A.
 PATENT ASSIGNEE(S): University of Connecticut, USA
 SOURCE: PCT Int. Appl., 73pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2006084088	A1	20060810	WO 2006-083764	20060131
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MN, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
US 2007089845	A1	20070426	US 2006-343552	20060131
PRIORITY APPLN. INFO.:		US 2005-648588P	P	20050131
IT 905276-47-3P, Bicyclo[2.2.1]hept-5-en-2-ylmethyl acetate-bicyclo[2.2.1]hept-5-en-2-ylmethyl (2,5-bis(thiophen-3-yl)thiophen-3-yl)acetate copolymer 905276-48-4P, Bicyclo[2.2.1]hept-5-en-2-ylmethyl acetate-bicyclo[2.2.1]hept-5-en-2-ylmethyl (2,5-bis(thiophen-3-yl)thiophen-3-yl)acetate-bicyclo[2.2.1]hept-5-en-2-ylmethyl methacrylate copolymer RL: IMF (Industrial manufacture); PEP (Physical, engineering or chemical process); PYP (Physical process); TEM (Technical or engineered material use); PREP (Preparation); PROC (Process); USES (Uses) (elec. conductive conjugated polymer electrospun nanofibers for elec.				

L16 ANSWER 3 OF 37 HCAPLUS COPYRIGHT 2007 ACS ON STN (Continued)
 ED Entered STN: 10 Aug 2006
 RN 905276-47-3 HCAPLUS
 CN [3,2':5',3''-Terthiophene]-3''-acetic acid, bicyclo[2.2.1]hept-5-en-2-ylmethyl ester, polymer with bicyclo[2.2.1]hept-5-en-2-yl acetate (9CI) (CA INDEX NAME)
 CM 1
 CRN 905276-46-2
 CMP C22 H20 O2 93

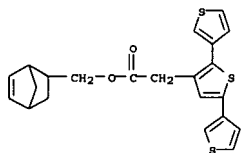


CM 2
 CRN 6143-29-9
 CMP C9 H12 O2

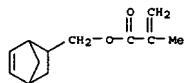


RN 905276-48-4 HCAPLUS
 CN [3,2':5',3''-Terthiophene]-3''-acetic acid, bicyclo[2.2.1]hept-5-en-2-ylmethyl ester, polymer with bicyclo[2.2.1]hept-5-en-2-yl acetate and bicyclo[2.2.1]hept-5-en-2-ylmethyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)
 CM 1
 CRN 905276-46-2
 CMP C22 H20 O2 93

L16 ANSWER 3 OF 37 HCAPLUS COPYRIGHT 2007 ACS ON STN (Continued)



CM 2
 CRN 36578-43-5
 CMP C12 H16 O2



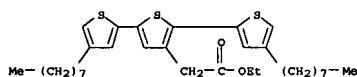
CM 3
 CRN 6143-29-9
 CMP C9 H12 O2



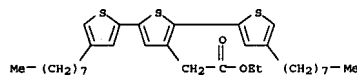
REFERENCE COUNT: 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE
 FORMAT

L16 ANSWER 4 OF 37 HCAPLUS COPYRIGHT 2007 ACS ON STN
 ED Entered STN: 01 Jun 2006
 AB New processable, electroactive, alternate copolymers consisting of dialkylbithiophene units and oligoaniline units have been prepared by post-polymerization functionalization of a specially prepared precursor polymer, namely poly[(4,4''-diocetyl-2,2':5',2''-terthiophene-3'-yl)ethyl acetate], carried out via its hydrolysis and consecutive branching aniline dimer or tetramer through the amidation reaction. The precursor polymer is interesting by itself because it gives a very clear spectroelectrochem. response over a very narrow potential range. The proposed method enables the preparation of regiochem. better defined alkylthiophene-oligoanilinebithiophene copolymers with higher content of oligoaniline side groups as compared to previously used methods. Cyclic voltammetry investigations combined with UV-vis-NIR, EPR and Raman spectroelectrochem. show that both the oligoaniline side groups and poly(thianylene) main chain are electrochem. active. Significant differences for the side group electrochem. are observed in acidified and nonacidified electrolytes making the prepared new copolymer a good candidate for electrochromic applications in diversified electrolytes.
 ACCESSION NUMBER: 2006:511546 HCAPLUS
 DOCUMENT NUMBER: 145:167684
 TITLE: Alternate copolymers of head to head coupled dialkylbithiophenes and oligoaniline substituted thiophenes: preparation, electrochemical and spectroelectrochemical properties
 AUTHOR(S): Buga, K.; Pokrop, R.; Majkowska, A.; Zagorska, M.; Planes, J.; Genoud, P.; Pron, A.
 CORPORATE SOURCE: Faculty of Chemistry, Warsaw University of Technology,
 SOURCE: Warsaw, 00-664, Pol.
 Journal of Materials Chemistry (2006), 16(22), 2150-2164
 CODEN: JMACEP; ISSN: 0959-9428
 PUBLISHER: Royal Society of Chemistry
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 IT 901452-02-6DP, hydrolyzed, reaction products with aniline dimer and tetramer
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation) (copolymers of head to head coupled dialkylbithiophenes and oligoaniline substituted thiophenes)
 RN 901452-02-6 HCAPLUS
 CN [2,2':5',2''-Terthiophene]-3''-acetic acid, 4,4''-diocetyl-, ethyl ester, homopolymer (9CI) (CA INDEX NAME)
 CM 1
 CRN 901452-01-5
 CMP C32 H46 O2 93

L16 ANSWER 4 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)



IT 901452-02-6P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (copolymers of head to head coupled dialkylbithiophenes and oligoaniline substituted thiophenes)
 RN 901452-02-6 HCAPLUS
 CN [2,2':5',2''-Terthiophene]-3'-acetic acid, 4,4'-dioctyl-, ethyl ester, homopolymer (9CI) (CA INDEX NAME)
 CM 1
 CRN 901452-01-5
 CMP C32 H46 O2 S3



REFERENCE COUNT: 42 THERE ARE 42 CITED REFERENCES AVAILABLE FOR THIS
 RECORD. ALL CITATIONS AVAILABLE IN THE RE
 FORMAT

L16 ANSWER 5 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN

ED Entered STN: 17 Mar 2006

AB Ring opening metathesis polymerization of 5-norbornene-2-(methylene-3'-[2,2':5',2''-terthiophene acetate] (NM3T) and 5-norbornene-2-acetoxymethyl (NA) resulted in random copolymers containing electroactive terthiophene pendant group. Homopolymer, PN3MT, and copolymers, P(NM3T-r-NA), with 70 and 50 mol% NM3T compns. were prepared, and their electrochem. and chemical solid-state oxidative crosslinking (SOC) were studied. PN3MT and P(NM3T-r-NA) behaved similarly during electrochem.

and chemical SOC, and the conjugated poly(terthiophene)s thus obtained showed similar conductivity and redox properties indicating no effect of conductive terthiophene composition on the electronic properties of random copolymers. This method is useful for precisely controlling the optical d. of the conjugated polymer.

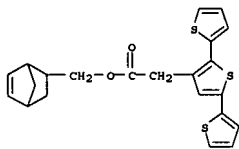
ACCESSION NUMBER: 2006:241612 HCAPLUS
 DOCUMENT NUMBER: 146:122540
 TITLE: Conducting polymers from random copolymers: solid-state crosslinking precursor approach
 AUTHOR(S): Kumar, Arvind; Jang, Sung-Yeon; Marquez, Manuel; Sotzing, Gregory A.
 CORPORATE SOURCE: Department of Chemistry and the Polymer Program, Institute of Materials Science, University of Connecticut, Storrs, CT, 06269-3136, USA
 SOURCE: PMSE Preprints (2006), 94, 588-589
 CODEN: PPMRA9; ISSN: 1550-6703
 PUBLISHER: American Chemical Society
 DOCUMENT TYPE: Journal; (computer optical disk)
 LANGUAGE: English

IT 869677-18-9P 918476-71-8P
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation) (crosslinked; conducting polymers prepared by solid-state crosslinking of terthiophene containing random copolymers)

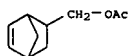
RN 869677-18-9 HCAPLUS
 CN [2,2':5',2''-Terthiophene]-3'-acetic acid, bicyclo[2.2.1]hept-5-en-2-ylmethyl ester, polymer with bicyclo[2.2.1]hept-5-en-2-ylmethyl acetate (CA INDEX NAME)

CM 1
 CRN 869677-17-8
 CMP C22 H20 O2 S3

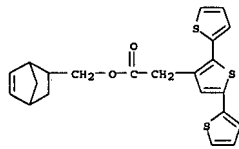
L16 ANSWER 5 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)



CM 2
 CRN 10471-24-6
 CMP C10 H14 O2



RN 918476-71-8 HCAPLUS
 CN [2,2':5',2''-Terthiophene]-3'-acetic acid, bicyclo[2.2.1]hept-5-en-2-ylmethyl ester, homopolymer (CA INDEX NAME)
 CM 1
 CRN 869677-17-8
 CMP C22 H20 O2 S3



REFERENCE COUNT: 10 THERE ARE 10 CITED REFERENCES AVAILABLE FOR THIS
 RECORD. ALL CITATIONS AVAILABLE IN THE RE
 FORMAT

L16 ANSWER 6 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN

ED Entered STN: 24 Nov 2005

GI



AB The 5-membered heterocyclic compds. I [ring A indicates O1, O2, or O3; R1 = (un)substituted aryl; R2 = substituted alkyl; R3 = (un)substituted aryl, (un)substituted heterocyclyl, (un)substituted alkyl; R4 = H, (un)substituted alkyl; when R1 = R3 = Ph, then R2 = carboxymethyl, ethoxycarbonylmethyl or their pharmacol. acceptable salts are used for high-conductance Ca-sensitive K channel openers, useful for treatment of urinary frequency, urinary incontinence, cerebral infarction, subarachnoid

hemorrhage, etc. Alternatively, the 5-membered heterocyclic compds. I [ring A indicates O4, O5, or O6; R1 = (un)substituted thienyl, aryl substituted with 2 halogen atoms; R2 = substituted alkyl; R3 = (un)substituted aryl, (un)substituted heterocyclyl, (un)substituted alkyl;

R4 = H, (un)substituted alkyl; when R1 = 2-thienyl, then R3 = 2-thienyl] or their pharmacol. acceptable salts are used for high-conductance Ca-sensitive K channel openers. II [prepared in 5 steps from 3-bromo-2-formylfuran] inhibited K+-induced contraction of rabbit bladder samples with IC50 of 50.5 μM.

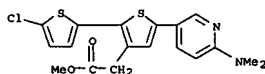
ACCESSION NUMBER: 2005:1240726 HCAPLUS
 DOCUMENT NUMBER: 143:472612
 TITLE: Use of five-membered heterocyclic compounds for high-conductance calcium-sensitive potassium channel openers
 INVENTOR(S): Hosaka, Toshihiro; Kusama, Mari; Oba, Kiyomi; Kono, Rikako; Konoumi, Shuntaro
 PATENT ASSIGNEE(S): Tanabe Seliyaku Co., Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 43 pp.
 CODEN: JXXXXP
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2005325103	A	20051124	JP 2005-115251	20050413
PRIORITY APPLN. INFO.:			JP 2004-117430	A 20040413

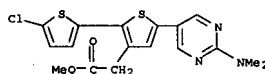
OTHER SOURCE(S): MARPAT 143:472612
 IT 683251-92-5P 683251-93-6P 683251-97-0P
 683251-98-1P
 RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USRS

07/08/2007,10531330c.trn

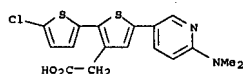
L16 ANSWER 6 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)
(Uses)
(prepn. of five-membered heterocyclic compds. for high-conductance
calcium-sensitive potassium channel openers)
RN 683251-92-5 HCAPLUS
CN [2,2'-Bithiophene]-3-acetic acid, 5'-chloro-5-[6-(dimethylamino)-3-
pyridinyl]-, methyl ester (9CI) (CA INDEX NAME)



RN 683251-93-6 HCAPLUS
CN [2,2'-Bithiophene]-3-acetic acid, 5'-chloro-5-[2-(dimethylamino)-5-
pyrimidinyl]-, methyl ester (9CI) (CA INDEX NAME)



RN 683251-97-0 HCAPLUS
CN [2,2'-Bithiophene]-3-acetic acid, 5'-chloro-5-[6-(dimethylamino)-3-
pyridinyl]-, sodium salt (9CI) (CA INDEX NAME)



RN 683251-98-1 HCAPLUS
CN [2,2'-Bithiophene]-3-acetic acid, 5'-chloro-5-[2-(dimethylamino)-5-
pyrimidinyl]-, sodium salt (9CI) (CA INDEX NAME)

L16 ANSWER 7 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN
ED Entered STN: 06 Oct 2005
AB Welded conducting polymer nanofibers with rapid electrochromic switching
speeds have been prepared by electrospinning a soluble precursor polymer
with
pendant heterocycles into nanofibers which are subsequently crosslinked
via solid-state oxidative crosslinking. The switching speeds between the
oxidized and neutral states for these nanofiber mats is about twenty

times faster than electrochem. prepared conducting polymer films.

ACCESSION NUMBER: 2005.1069339 HCAPLUS
DOCUMENT NUMBER: 143.486350
TITLE: Welded electrochromic conductive polymer nanofibers
by

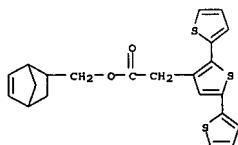
AUTHOR(S): electrostatic spinning
Jang, Sung-Yeon; Seshadri, Venkateramanan; Khil,
Myung-Seob; Kumar, Arvind; Marquez, Manuel; Mather,
Patrick T.; Sotzing, Gregory A.
CORPORATE SOURCE: Polymer Program, Institute of Materials Science,
University of Connecticut, Storrs, CT, 06269, USA
SOURCE: Advanced Materials (Weinheim, Germany) (2005),
17(18),
2177-2180
CODEN: ADVMEW, ISSN: 0935-9648
PUBLISHER: Wiley-VCH Verlag GmbH & Co. KGaA
DOCUMENT TYPE: Journal
LANGUAGE: English

IT 869677-18-9 869677-18-9D, oxidized
RL: PEP (Physical, engineering or chemical process); PYP (Physical
process); PROC (Process)
(welded electrochromic conductive polymer nanofibers by electrostatic
spinning)

RN 869677-18-9 HCAPLUS
CN [2,2':5',2''-Terthiophene]-3'-acetic acid, bicyclo[2.2.1]hept-5-en-2-
ylmethyl ester, polymer with bicyclo[2.2.1]hept-5-en-2-ylmethyl acetate
(CA INDEX NAME)

CM 1

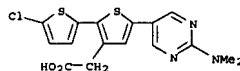
CRN 869677-17-8
CMP C22 H20 O2 S3



CM 2

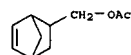
CRN 10471-24-6
CMP C10 H14 O2

L16 ANSWER 6 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)



● Na

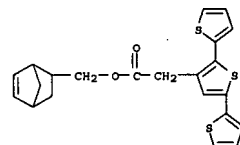
L16 ANSWER 7 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)



RN 869677-18-9 HCAPLUS
CN [2,2':5',2''-Terthiophene]-3'-acetic acid, bicyclo[2.2.1]hept-5-en-2-
ylmethyl ester, polymer with bicyclo[2.2.1]hept-5-en-2-ylmethyl acetate
(CA INDEX NAME)

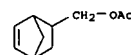
CM 1

CRN 869677-17-8
CMP C22 H20 O2 S3



CM 2

CRN 10471-24-6
CMP C10 H14 O2



REFERENCE COUNT:
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19 THERE ARE 19 CITED REFERENCES AVAILABLE FOR
RECORD. ALL CITATIONS AVAILABLE IN THE RB

L16 ANSWER 8 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN

ED Entered STN: 12 Sep 2005

AB Terthiophenes functionalized with nitro, amino, cyano, carboxyl, decylcarboxylate, acetic and acrylic acid groups were synthesized using Suzuki coupling. The electrochem. polymerization and spectroscopic data of the films deposited from substituted terthiophene modified at the 3'-position with electron-donating (NH₂) and electron-withdrawing (NO₂, COOC₁₀H₂₁) groups have been investigated. In addition, effect of alkoxy groups on

the electrochem. production of substituted poly(terthiophenes) and characterization of the resulting polymer film was studied.

ACCESSION NUMBER: 2005:988348 HCAPLUS

DOCUMENT NUMBER: 143:440867

TITLE: Towards functionalized terthiophene-based polymers
AUTHOR(S): Gambhir, Sanjeev; Wagner, Klaudia; Officer, David L.
CORPORATE SOURCE: Nanomaterials Research Centre and the MacDiarmid Institute for Advanced Materials and Nanotechnology,

Source: Massey University, Palmerston North, 11-222, N. Z.
Synthetic Metals (2005), 154(1-3), 117-120
CODEN: SYMEDZ; ISSN: 0379-6779

PUBLISHER: Elsevier B.V.

DOCUMENT TYPE: Journal

LANGUAGE: English

IT 868584-62-7P

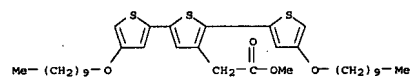
RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation);

PROC (Process); RACT (Reactant or reagent)

(Preparation and electrochem. polymerization of functionalized terthiophenes)

RN 868584-62-7 HCAPLUS

CN [2,2':5',2''-Terthiophene]-3'-acetic acid, 4,4''-bis(decyloxy)-, methyl ester (9CI) (CA INDEX NAME)



IT 868584-70-7P

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation) (Preparation and electrochem. polymerization of functionalized

terthiophenes)

RN 868584-70-7 HCAPLUS

CN [2,2':5',2''-Terthiophene]-3'-acetic acid, 4,4''-bis(decyloxy)-, methyl ester, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 868584-62-7

CMP C35 H52 O4 S3

L16 ANSWER 9 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN

ED Entered STN: 09 Sep 2005

AB Nano-writing of intrinsically conducting polymers, e.g., 5-norbornene-endo-2,3-bis(methylene-3'-[2,2':5',2'']-terthiophene acetate)

(NBT) homopolymer, was achieved via electrochem. nanolithog. technique using tapping mode electrochem. atomic force microscopy. The

electrochem.

nanolithog. method is based on solid-state oxidative crosslinking of a polymer layer deposited on a substrate in the presence of an electrolyte solution. Conducting polymer nanolines as small as 58 nm width were

obtained

and the line width was controlled as a function of the writing speed and writing potential. Higher writing potential and slower writing speed produce wider conducting polymer nanolines due to enhanced propagation. No specific restriction in the choice of substrates and the ease of controlling feature size is expected to facilitate to fabrication of all plastic nano-electronic devices.

ACCESSION NUMBER: 2005:985681 HCAPLUS

DOCUMENT NUMBER: 143:422859

TITLE: Writing of Conducting Polymers using

Nanoelectrochemistry

AUTHOR(S): Jang, S.-Y.; Marquez, M.; Sotzing, G. A.

CORPORATE SOURCE: Polymer Program, Institute of Materials Science,

Storrs, CT, 06269, USA

SOURCE: Synthetic Metals (2005), 152(1-3), 345-348

CODEN: SYMEDZ; ISSN: 0379-6779

PUBLISHER: Elsevier B.V.

DOCUMENT TYPE: Journal

LANGUAGE: English

IT 426815-39-6

RL: CPS (Chemical process); DEV (Device component use); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses) (nanolines produced by nanoelectrochem. writing of polythiophene

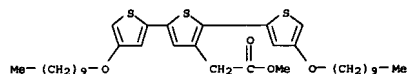
layer)

RN 426815-39-6 HCAPLUS

CN [2,2':5',2''-Terthiophene]-3'-acetic acid, (1R,2S,3R,4S)-bicyclo[2.2.1]hept-5-ene-2,3-diylbis(methylene) ester, rel- (9CI) (CA INDEX NAME)

Relative stereochemistry.

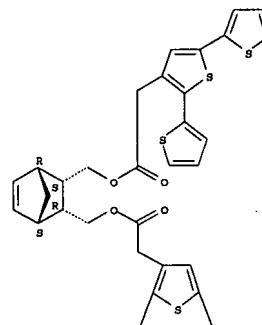
L16 ANSWER 8 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)



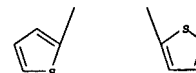
REFERENCE COUNT: 21 THERE ARE 21 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE REFORMAT

L16 ANSWER 9 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)

PAGE 1-A



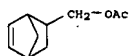
PAGE 2-A



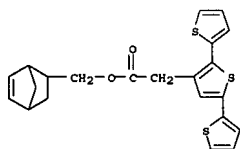
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L16 ANSWER 11 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)

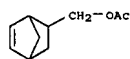
L16 ANSWER 11 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)



IT 869677-18-9
 RL: CPS (Chemical process); DEV (Device component use); PEP (Physical, engineering or chemical process); PYP (Physical process); PROC (Process); USES (Uses)
 (precursor nanofibers; preparation of electrochromic conductive polythiophene nanofibers via electrospinning of solution processable precursor and oxidative crosslinking for device application)
 RN 869677-18-9 HCAPLUS
 CN [2,2':5',2''-Terthiophene]-3'-acetic acid, bicyclo[2.2.1]hept-5-en-2-ylmethyl ester, polymer with bicyclo[2.2.1]hept-5-en-2-ylmethyl acetate (CA INDEX NAME)
 CM 1
 CRN 869677-17-8
 CMP C22 H20 O2 S3

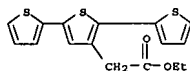


CM 2
 CRN 10471-24-6
 CMP C10 H14 O2



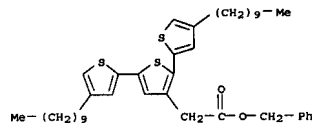
REFERENCE COUNT: 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE
 FORMAT

L16 ANSWER 12 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN
 ED Entered STN: 07 Feb 2005
 AB The syntheses of 2 new terthienyl monomers containing a 1,3-propanedione group and the derived polymers are described along with their electrochem. properties. The conjugation of the terthienyl core with the enol form of the 1,3-propanedione is examined by spectroscopic and electrochem. means. Electronic interaction between the terthiophene moiety functionalized in the 5-position and the 1,3-propanedione is demonstrated. The polymerization conditions are studied with a view to optimizing the stability of the enol form of the 1,3-propanedione group.
 ACCESSION NUMBER: 2005:102704 HCAPLUS
 DOCUMENT NUMBER: 142:324896
 TITLE: A new polymer based on a conjugated terthiophene-β-diketone ligand: electrochemical study and structural aspects
 AUTHOR(S): Lopes Graca, J. F.; Chané-Ching, K. I.; Vassar, A.
 CORPORATE SOURCE: ITODYS, associe au CNRS (UMR 7086), Universite Paris 7-Denis Diderot, Paris, 75005, Fr.
 SOURCE: Electrochimica Acta (2005), 50(7-8), 1475-1480
 CODEN: ELCAAV; ISSN: 0013-4686
 PUBLISHER: Elsevier B.V.
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 IT 143463-80-7
 RL: RCT (Reactant); RACT (Reactant or reagent) (reaction with ethylpentanone)
 RN 143463-80-7 HCAPLUS
 CN [2,2':5',2''-Terthiophene]-3'-acetic acid, ethyl ester (CA INDEX NAME)



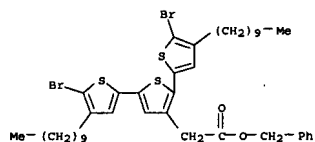
REFERENCE COUNT: 11 THERE ARE 11 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE
 FORMAT

L16 ANSWER 13 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN
 ED Entered STN: 23 Dec 2004
 AB The structural and mech. properties of Langmuir-Blodgett monolayer and multilayer films of 3'',4''''-didecyl-5,2',5'',2'',5'',2'',5'',2'',5'',2'',5'',2'',5'',2''''-heptathiophene-4''''-acetic acid on mica have been studied by atomic force microscopy (AFM) as a function of humidity, temperature, and applied force. The mols. orient with the carboxylic acid group pointing toward the mica surface and expose the alkyl side chains to the air interface. As the load applied by the AFM tip increases, the film is compressed easily from an initial height of 2 to 1.2 nm. After compression the films can support much higher loads without loss of height. The state of aggregation of the mols. was found to be sensitive to the environmental humidity, which induced reversible changes. Annealing the samples with monolayer or multilayer films resulted in irreversible changes when the temperature exceeded approx. 100 °C.
 ACCESSION NUMBER: 2004:1122329 HCAPLUS
 DOCUMENT NUMBER: 142:246698
 TITLE: Atomic Force Microscopy Study of β-Substituted-T7 Oligothiophene Films on Mica: Mechanical Properties and Humidity-Dependent Phases
 AUTHOR(S): Chen, Jinyu; Ratera, Imma; Ogletree, D. F.; Salmeron, Miquel; Murphy, Amanda R.; Frechet, Jean M. J.
 CORPORATE SOURCE: Lawrence Berkeley National Laboratory, Berkeley, CA, 94720, USA
 SOURCE: Langmuir (2005), 21(3), 1080-1085
 CODEN: LANGDS; ISSN: 0743-7463
 PUBLISHER: American Chemical Society
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 IT 844664-66-0P 844664-67-1P 844664-68-2P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent) (intermediate, to synthesize β-substituted-T7 oligothiophene)
 RN 844664-66-0 HCAPLUS
 CN [2,2':5',2''-Terthiophene]-3'-acetic acid, 4,4''''-didecyl-, phenylmethyl ester (9CI) (CA INDEX NAME)

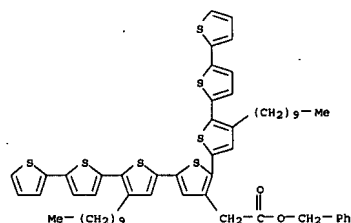


RN 844664-67-1 HCAPLUS
 CN [2,2':5',2''-Terthiophene]-3'-acetic acid, 5,5''''-dibromo-4,4''''-didecyl-, phenylmethyl ester (9CI) (CA INDEX NAME)

L16 ANSWER 13 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)



RN 844664-68-2 HCAPLUS
CN [2,2':5',2'':5'',2''':5''',2'''':5'''';2''''':5''''';2''''':5''''';2''''':5''''';
Septithiophene]-3'''-acetic acid, 3''',4'''''-didecyl-, phenylmethyl ester
(9CI) (CA INDEX NAME)



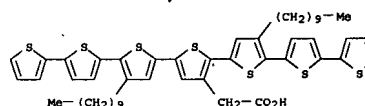
IT	844664-69-3P
R#:	PRP (Physical, engineering or chemical process); PRP (Properties);
PYP	(Physical process); SPN (Synthetic preparation); PREP (Preparation); PROC (Process) (phase transition and mol. configuration of β -substituted-T7 oligothiophene LB film on mica)
RN	844664-69-3 HCAPUIS
CN	[2,2'',5',5'']-[2,5'',2'',5''',5''',2'',5'',5''',2'',5''', Septithiophene]-3'''-acetic acid, 3'',4'''-didacyl- (9CI) (CA INDEX NAME)

L16 ANSWER 14 OF 3 HCAPUISL COPYRIGHT 2007 ACS ON STN
ED Entered STN: 22 Dec 2004
AB We present the optical properties and LED performance of single-layer devices of a tetra-ester of α -quinoxithiophene (TET5) and of 2 related polymers (PTET5 and PDET3) and discuss them in connection with the crystal structure features of this oligomer. The solution photoluminescence quantum yield (PLQY) of TET5 is smaller than that of the corresponding unsubstituted oligomer, while its value in the solid state is appreciable. Mol. packing, consisting of a sequence of mol. stacks linked by relatively strong polar hydrogen-bond-like interactions, favors PL quenching and hence accounts for the limited quantum efficiency of LED devices built by a single-layer film displaying substantial order (next 2 5-10-33). Films of the corresponding PTET5 polymer are amorphous, morphol. homogeneous, and behave differently, with LED devices showing over 500 cd/m² at 15 V. The probable reason for the difference between TET5 and PTET5 is to be found in mol. aggregation and orientation with respect to the substrate, implying that PLQY in this class of materials is substantially influenced by self-assembly. This is confirmed by the poor efficiency of the PDET3 polymer, the films of which are substantially more

ordered than those of PTETS.

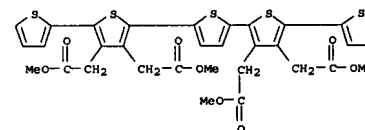
ACCESSION NUMBER: 2004.1106847 HCAPLUS
DOCUMENT NUMBER: 142:241095
TITLE: Functionalized Oligothiophenes for Optoelectronic Applications: 3',4',3'',4'',4'''-Tetra
{(methoxycarbonyl)methyl}-
2,2',5',2'',5'',2''',5'''-quinquithiophene and
Related Polymers
PORZIO, W., DESTRI, S., GIOVANELLA, U., MEILLE, S.
V.,
Raos, G., Consonni, R., Zotti, G.
CORPORATE SOURCE: Istituto per lo Studio delle Macromolecole, C.N.R.,
Milan, 20133, Italy
SOURCE: Chemistry of Materials (2005), 17(2), 242-249
CODEN: CHATEX; ISSN: 0897-4756
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
IT 220653-53-2 844642-24-6 844642-25-7
844642-26-8 844642-27-9
RL: PRP (Properties), TEM (Technical or engineered material use), USES
(Uses)
(functionalized quinquithiophenes and related polymers for
optoelectronic applications)
RN 220653-53-2 HCAPLUS
CN [2',3',5',2'',5'',2''',5'''-Quinquethiophene]-3',3'',4',4'''-
[tetraacetic acid, tetramethyl ester (9CI)] (CA INDEX NAME)

L16 ANSWER 13 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)



REFERENCE COUNT: 45 . THERE ARE 45 CITED REFERENCES AVAILABLE FOR
THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE
FORMAT

L16 ANSWER 14 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)



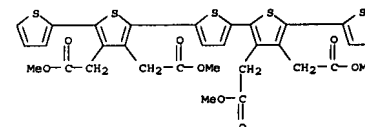
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CN      [2,2',5',2'',5'',2''',5''',2''''-Quinque thiophene)-3',3'',4',4'''-
        tetraacetic acid, tetramethyl ester, homopolymer (9CI)  (CA INDEX NAME)

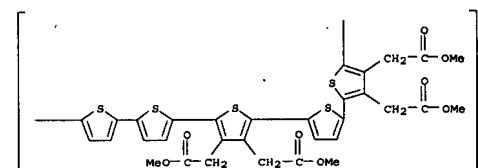
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CRN     220653-53-2
CMF     C32 H28 O8 .85

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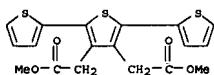


RN 844642-25-7 HCAPLUS
CN
Poly[3,3',4,4'-tetrakis(2-methoxy-2-oxoethyl) [2,2':5,2'':5'',2''':5''',
2''''-quinquethiophene]-5,5''''-diyl] (9CI) (CA INDEX NAME)

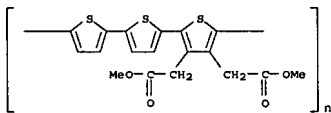


RN 844642-26-9 HCAPLUS
CN [2,2',5',2''-Terthiophene]-3',4'-diacetic acid, dimethyl ester,
homopolymer (9CI) (CA INDEX NAME)
CM 1

L16 ANSWER 14 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)
 CRN 220653-51-0
 CMP C18 H16 O4 S3



RN 844642-27-9 HCAPLUS
 CN Poly[3,4-bis(2-methoxy-2-oxoethyl)(2,2':5',2'''-terthiophene)-5,5'''-diyl]
 (9CI) (CA INDEX NAME)



REFERENCE COUNT: 36 THERE ARE 36 CITED REFERENCES AVAILABLE FOR
 THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE

FORMAT

L16 ANSWER 15 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN
 ED Entered STN: 03 Dec 2004
 AB A method of manufacturing an intrinsically conductive polymer
 crosslinking at
 least a portion of an intrinsically conductive polymer precursor in the
 solid state, the swollen state, or combinations comprising at least one
 of
 the foregoing states, wherein the swollen state is characterized as being
 one wherein the intrinsically conductive polymer precursor increases in
 volume upon exposure to a solvent without completely dissolving in the
 solvent. In another embodiment, a method of manufacturing a pattern
 comprises
 casting a film of an intrinsically conductive polymer precursor on a
 substrate, and crosslinking at least a portion of the film by oxidation,
 wherein the crosslinking occurs in the solid state, the swollen state or
 combinations comprising at least one of the foregoing states.
 ACCESSION NUMBER: 2004:1036748 HCAPLUS
 DOCUMENT NUMBER: 142:23947
 TITLE: Method of crosslinking intrinsically conductive
 polymers or intrinsically conductive polymer
 precursors and the articles obtained therefrom
 Sotzing, Gregory A.
 INVENTOR(S): USA
 PATENT ASSIGNEE(S): U.S. Pat. Appl. Publ., 54 pp.
 SOURCE: CODEN: USXXCO
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2004242792	A1	20041202	US 2004-788234	20040226
WO 2005014693	A1	20050217	WO 2004-US5913	20040227
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GR, GU, HK, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MY, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SV, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW			
RW:	BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
JP 2006523262	T	20061012	JP 2006-508885	20040227
PRIORITY APPLN. INFO.:			US 2003-451165P	P 20030228
			WO 2004-US5913	W 20040227

IT 426815-40-9
 RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); PROC (Process)
 (method of crosslinking intrinsically conductive polymers or intrinsically conductive polymer precursors and the articles obtained therefrom)

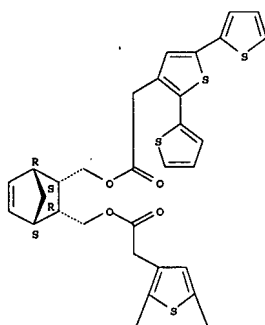
L16 ANSWER 15 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)
 RN 426815-40-9 HCAPLUS
 CN [2,2':5',2'''-Terthiophene]-3'-acetic acid, (1R,2S,3R,4S)-bicyclo[2.2.1]hept-5-ene-2,3-diylbis(methylene) ester, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 426815-39-6
 CMP C37 H30 O4 S6

Relative stereochemistry.

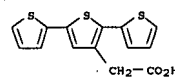
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PAGE 2-A



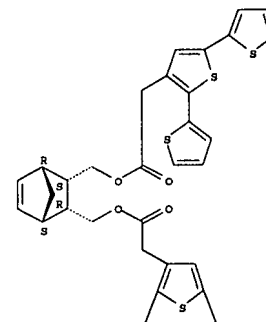
L16 ANSWER 15 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)



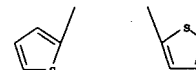
IT 426815-39-6P
 RL: IMP (Industrial manufacture); RCT (Reactant); PREP (Preparation);
 RACT
 (Reactant or reagent)
 (monomer; method of crosslinking intrinsically conductive polymers or intrinsically conductive polymer precursors and the articles obtained therefrom)
 RN 426815-39-6 HCAPLUS
 CN [2,2':5',2'''-Terthiophene]-3'-acetic acid, (1R,2S,3R,4S)-bicyclo[2.2.1]hept-5-ene-2,3-diylbis(methylene) ester, rel- (9CI) (CA INDEX NAME)

Relative stereochemistry.

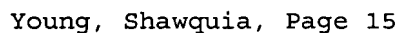
PAGE 1-A



PAGE 2-A



IT 163463-81-8
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (method of crosslinking intrinsically conductive polymers or intrinsically conductive polymer precursors and the articles obtained therefrom)
 RN 163463-81-8 HCAPLUS
 CN [2,2':5',2'''-Terthiophene]-3'-acetic acid (9CI) (CA INDEX NAME)

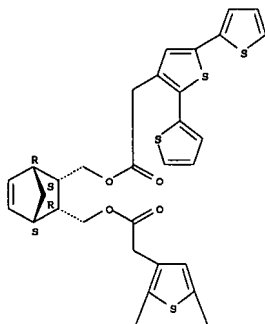


L16 ANSWER 17 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)
 REFERENCE COUNT: 22 THERE ARE 22 CITED REFERENCES AVAILABLE FOR THIS
 RECORD. ALL CITATIONS AVAILABLE IN THE RE
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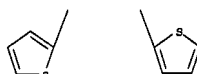
L16 ANSWER 18 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN
 ED Entered STN: 14 May 2004
 AB A comparative study of solid-state oxidative crosslinking (SOC) of polynorbornylenes containing thiophene (N1T), bithiophene (N2T), and terthiophene pendants (N3T) probing polymerization ability, kinetics, and the electrochem. and optical properties of the resulting conductive polythiophene interpenetrating networks (IPN)s is reported. Generally, conductive IPNs prepared from these systems were found to exhibit the capability to shuttle ions with predominant anion transport during the doping/dedoping process and were found to have doping levels ranging from 17 to 36%. N2T was found to produce conductive IPNs via SOC with a lower energy π to π^* transition compared to those prepared from N3T.
 ACCESSION NUMBER: 2004:390389 HCAPLUS
 DOCUMENT NUMBER: 141:107064
 TITLE: Poly(thiophene)s Prepared via Electrochemical Solid-State Oxidative Cross-Linking. A Comparative Study
 AUTHOR(S): Jang, Sung-Yeon; Sotzing, Gregory A.; Marquez, Manuel
 CORPORATE SOURCE: Department of Chemistry and the Polymer Program, Institute of Materials Science, University of Connecticut, Storrs, CT, 06269, USA
 SOURCE: Macromolecules (2004), 37(12), 4351-4359
 CODEN: MAMOBX, ISSN: 0024-9297
 PUBLISHER: American Chemical Society
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 IT 426815-40-9DP, crosslinked
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation) (electrochem. crosslinking of polynorbornylenes containing thiophene, bithiophene, and terthiophene pendants)
 RN 426815-40-9 HCAPLUS
 CN [2,2':5',2''-Terthiophene]-3'-acetic acid, (1R,2S,3R,4S)-bicyclo[2.2.1]hept-5-ene-2,3-diylbis(methylene) ester, homopolymer (9CI) (CA INDEX NAME)
 CM 1
 CRN 426815-39-6
 CMP C37 H30 O4 S6
 Relative stereochemistry.

L16 ANSWER 18 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)

PAGE 1-A



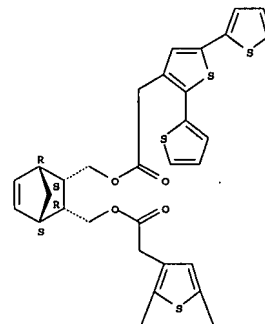
PAGE 2-A



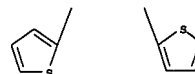
IT 426815-40-9 426815-41-0
 RL: PRP (Properties); RCT (Reactant); RACT (Reactant or reagent) (prepolymer, electrochem. crosslinking of polynorbornylenes containing thiophene, bithiophene, and terthiophene pendants)
 RN 426815-40-9 HCAPLUS
 CN [2,2':5',2''-Terthiophene]-3'-acetic acid, (1R,2S,3R,4S)-bicyclo[2.2.1]hept-5-ene-2,3-diylbis(methylene) ester, homopolymer (9CI) (CA INDEX NAME)
 CM 1
 CRN 426815-39-6
 CMP C37 H30 O4 S6
 Relative stereochemistry.

L16 ANSWER 18 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)

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RN 426815-41-0 HCAPLUS
 CN Poly([[(4R,5R)-4,5-bis[[[2,2':5',2''-terthiophen]-3'-ylacetyl]oxy]methyl]-1,3-cyclopentenediyl]-1,2-ethenediyl], rel- (9CI) (CA INDEX NAME)

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

L16 ANSWER 18 OF 37 HCAPLUS COPYRIGHT 2007 ACS ON STN (Continued)



PAGE 2-A

REFERENCE COUNT: 36 THERE ARE 36 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE
FORMAT

L16 ANSWER 19 OF 37 HCAPLUS COPYRIGHT 2007 ACS ON STN

ED Entered STN: 30 Apr 2004

AB There are disclosed large conductance Ca-activated K channel openers (R1-R3-substituted 5-membered heterocycles (I, e.g.

5-(4-methylthiophenyl)-2-(5-chlorothiophen-2-yl)furan-3-ylacetic acid sodium salt (II)) containing any

one of O, N or S, which ring may be N-substituted by R4; R1 is aryl, heterocyclic or heterocycle-substituted carbonyl; R2 is H, halogen, carboxy, amino, alkyl, alkoxy, carbonyl, alkenyl or cycloalkyl; R3 is aryl, heterocyclic or alkyl, and R4 is H or alkyl, each of substituents may be substituted; addnl. details are given in the claims) or a

pharmaceutically acceptable salt thereof as an active ingredient. Although the methods of preparation are not claimed, example preps. and/or characterization data for

with coupling of 3-formylfuran-2-ylboronic acid with 2-bromo-5-chlorothiophene to give 2-(5-chlorothiophen-2-yl)furan-3-carboxaldehyde, which was converted to Et 2-(5-chlorothiophen-2-yl)furan-3-ylacetate, then Et 2-(5-bromo-2-(5-chlorothiophen-2-yl)furan-3-yl)acetate, then Et 2-(5-(4-methylthiophenyl)-2-(5-chlorothiophen-2-yl)furan-3-yl)acetate using (4-methylthiophenyl)boronic acid, followed by base hydrolysis to the acid followed by conversion to the sodium salt. The relaxation effect on K-induced contraction of isolated rabbit urinary bladder and the inhibitory effect on the rhythmic bladder contractions induced by substance P in anesthetized rats were determined for 8 and 6 examples of

I, resp. Expts. involving iberiotoxin, a selective large conductance calcium

activated K channel blocker, suggest that I have a detrusor relaxing activity through the large conductance calcium activated K channel.

ACCESSION NUMBER: 2004:354933 HCAPLUS

DOCUMENT NUMBER: 140.375064

TITLE: Preparation of 5-membered heterocycle-substituted acetic acid derivatives as large conductance calcium-activated K channel openers for pollakiuria

OR

urinary incontinence
INVENTOR(S): Hosaka, Toshihiro; Kusama, Mari; Ohba, Kiyomi; Kono, Rikako; Kohno, Shuntaro

PATENT ASSIGNER(S): Tanabe Sanyaku Co., Ltd., Japan

SOURCE: PCT Int. Appl., 90 pp.

DOCUMENT TYPE: CODEN: PIXXD2

Patent
English
LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004035570	A1	20040429	WO 2003-JP13194	20031015
W: AB, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE,				

L16 ANSWER 19 OF 37 HCAPLUS COPYRIGHT 2007 ACS ON STN (Continued)

GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SV, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
RM: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, NG, TD, TG

CA 2501979 A1 20040429 CA 2003-2501979 20031015

AU 2003272099 A1 20040504 AU 2003-272099 20031015

EP 1556376 A1 20050727 EP 2003-754140 20031015

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK

BR 2003015386 A 20050823 BR 2003-15386 20031015

CN 1705659 A 20051207 CN 2003-80101508 20031015

JP 2006503111 T 20060126 JP 2005-501348 20031015

NZ 539902 A 20070531 NZ 2003-539902 20031015

MX 2005PA03972 A 20050622 MX 2005-PA3972 20050414

US 2006135597 A1 20060622 US 2005-531330 20050414

NO 2005002023 A 20050510 NO 2005-2023 20050426

JP 2002-300860 A 20021015
JP 2003-104260 A 20030408
WO 2003-JP13194 W 20031015

OTHER SOURCE(S): MARPAT 140.375064

IT 683251-92-5P, Methyl 5-(6-(dimethylamino)pyridin-3-yl)-2-(5-chlorothiophen-2-yl)thiophen-3-acetate 683251-93-6P, Methyl 5-(2-(dimethylamino)pyrimidin-5-yl)-2-(5-chlorothiophen-2-yl)thiophen-3-acetate

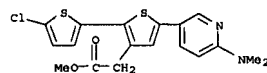
RL: PAC (Pharmacological activity); RCT (Reactant); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)

(drug candidate; preparation of 5-membered heterocycle-substituted acetic

acid derivs. as large conductance calcium-activated K channel openers for pollakiuria or urinary incontinence)

RN 683251-92-5 HCAPLUS

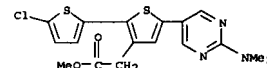
CN [2,2'-Bithiophene]-3-acetic acid, 5'-chloro-5-[6-(dimethylamino)-3-pyridinyl]-, methyl ester (9CI) (CA INDEX NAME)



RN 683251-93-6 HCAPLUS

CN [2,2'-Bithiophene]-3-acetic acid, 5'-chloro-5-[2-(dimethylamino)-5-pyrimidinyl]-, methyl ester (9CI) (CA INDEX NAME)

L16 ANSWER 19 OF 37 HCAPLUS COPYRIGHT 2007 ACS ON STN (Continued)



IT 683251-97-0P, 5-[6-(Dimethylamino)pyridin-3-yl]-2-(5-chlorothiophen-2-yl)thiophen-3-acetic acid sodium salt 683251-98-1P,

5-[2-(Dimethylamino)pyrimidin-5-yl]-2-(5-chlorothiophen-2-yl)thiophen-3-acetic acid sodium salt

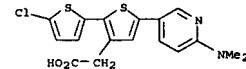
RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(drug candidate; preparation of 5-membered heterocycle-substituted acetic

acid derivs. as large conductance calcium-activated K channel openers for pollakiuria or urinary incontinence)

RN 683251-97-0 HCAPLUS

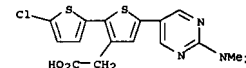
CN [2,2'-Bithiophene]-3-acetic acid, 5'-chloro-5-[6-(dimethylamino)-3-pyridinyl]-, sodium salt (9CI) (CA INDEX NAME)



● Na

RN 683251-98-1 HCAPLUS

CN [2,2'-Bithiophene]-3-acetic acid, 5'-chloro-5-[2-(dimethylamino)-5-pyrimidinyl]-, sodium salt (9CI) (CA INDEX NAME)



● Na

REFERENCE COUNT: 6

THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE

FORMAT

L16 ANSWER 20 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN
 ED Entered STN: 22 Mar 2004
 AB We previously demonstrated a novel intrinsically conducting polymers (ICP) preparation method, solid-state oxidative crosslinking (SOC), which can be used to make ICPs from an insulating precursor polymer. The scheme for the preparation of poly(5-norbornene-endo-2,3-bis-methylene-3'-(2,2':5',2''-terthiophene acetate), PN3T, which is an insulating precursor polymer and its conversion to an ICP, PNP3T via SOC is described. Conversion of the insulating precursor polymer, PN3T, to the conducting polymer, PNP3T, can be achieved via oxidation of pendant terthiophene units, either electrochem. (E-SOC) or chemical (C-SOC). The precursor polymer is processable to desired forms since it is soluble in many of the common organic solvents, and SOC is performed in solvents that only swell but do not dissolve the precursor polymer. Nano-writing of an intrinsically conducting polymer was achieved via a novel method that we have coined electrochem. oxidative nanolithog. (ECON). By using a conductive AFM tip as a working electrode, the solid-state oxidative crosslinking (SOC) of PN3T occurs in the nanometer scale regime. The size of ICP lines obtained were as small as 200 nm-wide, and the width of nano-lines could be controlled by writing speed. The writing speed of ECON is presently from 50 to 10,000 faster than other SPM-based conducting polymer nanolithog. techniques and there is no specific restriction of substrate.

ACCESSION NUMBER: 2004:234237 HCAPLUS
 DOCUMENT NUMBER: 141:164737
 TITLE: Direct writing of polyterthiophene nanowires using electrochemical oxidative nanolithography (ECON)
 AUTHOR(S): Jang, Sung-Yeon; Marquez, Manuel; Sotzing, Gregory A.
 CORPORATE SOURCE: Chemistry Department and Polymer Program, University of Connecticut, Storrs, CT, 06269, USA
 SOURCE: Polymer Preprints (American Chemical Society, Division of Polymer Chemistry) (2004), 45(1), 225-226
 CODEN: ACPAY, ISSN: 0032-3934
 PUBLISHER: American Chemical Society, Division of Polymer Chemistry
 DOCUMENT TYPE: Journal, (computer optical disk)
 LANGUAGE: English
 IT 426815-40-9 426815-41-0
 RL: CPS (Chemical process); DEV (Device component use); PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
 (nano-writing of intrinsically conducting polymer via electrochem. oxidative nanolithog. using solid state oxidative crosslinking)
 RN 426815-40-9 HCAPLUS
 CN [2,2':5',2''-Terthiophene]-3'-acetic acid, (1R,2S,3R,4S)-bicyclo[2.2.1]hept-5-ene-2,3-diylbis(methylene) ester, homopolymer (9CI) (CA INDEX NAME)

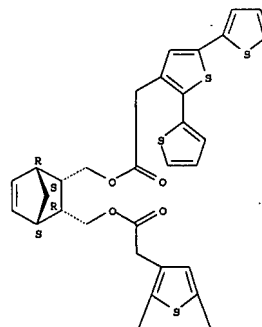
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L16 ANSWER 20 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)

CRN 426815-39-6
 CMP C37 H30 O4 S6

Relative stereochemistry.

PAGE 1-A



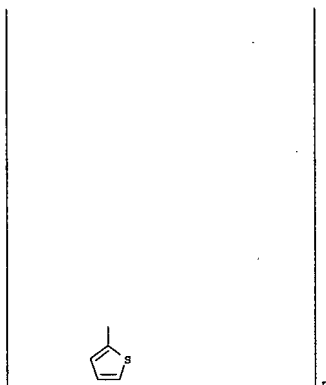
PAGE 2-A



RN 426815-41-0 HCAPLUS
 CN Poly[[[4R,5S]-4,5-bis[[[(2,2':5',2''-terthiophen)-3'-ylacetyl]oxy]methyl]-1,3-cyclopentenediyl]-1,2-ethenediyl], rel- (9CI) (CA INDEX NAME)

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

L16 ANSWER 20 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)

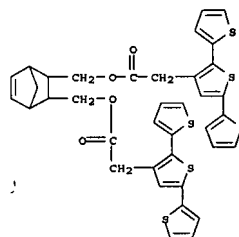


PAGE 2-A

REFERENCE COUNT: 21 THERE ARE 21 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE
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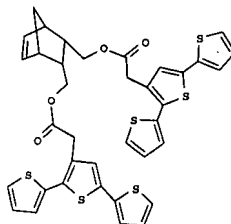
L16 ANSWER 21 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN
 ED Entered STN: 24 Aug 2003
 AB Ion transport behavior of solid-state crosslinking of the precursor polymer, poly(1a), was studied using electrochem. quartz crystal microbalance (EQCM). We also compared the results of ion transport behavior in solid-state crosslinking to that of conventional electrochem. deposition from the monomer solution. The EQCM results of the solid-state crosslinkable precursor polymer, poly(1a) was different from that of electrodeposition from the monomer solution since no deposition occurs during solid-state crosslinking. Both conducting polymers show similar doping level (~apprx.35%), and poly(1b) prepared by solid-state crosslinking shows less anion dominant ion transport ratio (89%) than that of poly(1) (97%) prepared from monomer solution.

ACCESSION NUMBER: 2003:658007 HCAPLUS
 DOCUMENT NUMBER: 140:17158
 TITLE: Ion transport studies on intrinsically conducting polymer prepared by solid-state crosslinking
 AUTHOR(S): Jang, Sung-Yeon; Sotzing, Gregory A.; Marquez, Manuel
 CORPORATE SOURCE: Polymer Program, Institute of Materials Science, University of Connecticut, Storrs, CT, 06269, USA
 SOURCE: Polymer Preprints (American Chemical Society, Division of Polymer Chemistry) (2003), 44(2), 360-361
 CODEN: ACPAY, ISSN: 0032-3934
 PUBLISHER: American Chemical Society, Division of Polymer Chemistry
 DOCUMENT TYPE: Journal, (computer optical disk)
 LANGUAGE: English
 IT 631914-07-3P
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation) (ion transport on intrinsically conducting polymer prepared by solid-state crosslinking)
 RN 631914-07-3 HCAPLUS
 CN [2,2':5',2''-Terthiophene]-3'-acetic acid, bicyclo[2.2.1]hept-5-ene-2,3-diylbis(methylene) ester (9CI) (CA INDEX NAME)



REFERENCE COUNT: 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE
 FORMAT

L16 ANSWER 21 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)

L16 ANSWER 22 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN
RD Entered STN: 18 Mar 2003
GI

I

AB Insulating polymer backbones consisting of pendant oxidatively polymerizable units such as pyrrole, thiophene, etc., can be oxidatively crosslinked in a solid state. Swellability of the precursor polymers is

a key factor in deciding the success of this method. Terthiophene derivative I was metathesis polymerized, coated on an electrode patterned surface, and oxidatively crosslinked electrochem.

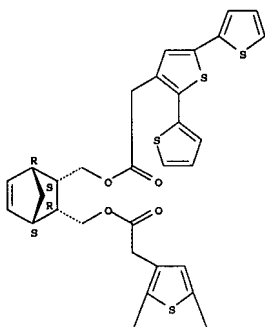
ACCESSION NUMBER: 2003:210744 HCAPLUS
DOCUMENT NUMBER: 138:402620
TITLE: Oxidative solid-state crosslinking for patterning intrinsically conductive polymers
AUTHOR(S): Sotzing, Gregory A.; Jang, Sung-Yeon; Marquez, Manuel
CORPORATE SOURCE: Department of Chemistry and the Polymer Program
Institute of Materials Science, University of Connecticut, Storrs, CT, 06269, USA
SOURCE: Polymer Preprints (American Chemical Society, of Polymer Chemistry) (2003), 44(1), 82-83
CODEN: ACPPAY; ISSN: 0032-3934
PUBLISHER: American Chemical Society, Division of Polymer Chemistry
DOCUMENT TYPE: Journal; (computer optical disk)
LANGUAGE: English

IT 426815-39-6
RL: RCT (Reactant); TEM (Technical or engineered material use); RACT (Reactant or reagent); USES (Uses)
oxidative crosslinking of; oxidative solid-state crosslinking for patterning intrinsically conductive polymers
RN 426815-39-6 HCAPLUS
CN [2,2':5',2''-Terthiophene]-3'-acetic acid, (1R,2S,3R,4S)-bicyclo[2.2.1]hept-5-ene-2,3-diylbis(methylene) ester, rel- (9CI) (CA

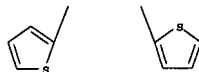
L16 ANSWER 23 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)
INDEX NAME)

Relative stereochemistry.

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PAGE 2-A



REFERENCE COUNT: 16 THERE ARE 16 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RECORD.
FORMAT

L16 ANSWER 23 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN
RD Entered STN: 08 Jan 2003

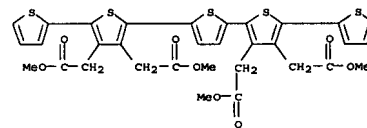
AB The aim of this contribution is to report on the recent study of differently packed oligomers based on mixed fluorene, thiophene deriva. and on substituted thiophene oligomers, with particular reference on the influence of the overall solid-state aggregation onto the photoluminescence (PL). However, the preparation of polymers having the

cited oligomers as monomeric unit, thus changing the aggregation, can enhance the emission property. The combined use of crystal structure anal., powder diffraction anal. and mol. mechanics/crystal packing calcs. allowed the authors to give a deeper insight between PL emission and solid-state aggregation, in its turn related to chemical structure.

Other factors affecting the PL yield have to be taken into account to understand the behavior of mols. containing both polar and mobile substituents. Also, some indications confirming the conclusions reached on the previous topics will be presented from LED device measurements.

ACCESSION NUMBER: 2003:13551 HCAPLUS
DOCUMENT NUMBER: 138:345688
TITLE: The role of solid-state aggregation on the emission in molecular crystals and in their devices
AUTHOR(S): Destri, S.; Pasini, M.; Giovannella, U.; Porzio, W.
CORPORATE SOURCE: Istituto per lo studio delle Macromolecole del C.N.R., Milan, 20133, Italy
SOURCE: Materials Science & Engineering, C: Biomimetic and Supramolecular Systems (2003), C23(1-2), 291-295
CODEN: MSCEEE; ISSN: 0928-4931
PUBLISHER: Elsevier Science B.V.
DOCUMENT TYPE: Journal
LANGUAGE: English

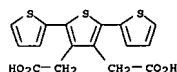
IT 220653-53-2
RL: DEV (Device component use); PRP (Properties); USES (Uses)
role of solid-state aggregation on emission in mol. crystals and in their devices
RN 220653-53-2 HCAPLUS
CN [2,2':5',2''-Terthiophene]-3',3''',4',4'''-tetracarboxylic acid, tetramethyl ester (9CI) (CA INDEX NAME)



REFERENCE COUNT: 19 THERE ARE 19 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RECORD.
FORMAT

L16 ANSWER 23 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)

L16 ANSWER 24 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN
 ED Entered STN: 20 Dec 2002
 AB The authors prepare and characterize new IR luminescent materials based on
 Er³⁺ which can be excited in the visible region thanks to oligothiophene ligands featuring the carboxylate functionality. Absorption spectra, IR photoluminescence spectra are presented.
 ACCESSION NUMBER: 2002:961968 HCAPLUS
 DOCUMENT NUMBER: 138:114714
 TITLE: Novel Erbium-Substituted Oligothiophene Chelates for Infrared Emission
 AUTHOR(S): Destri, Silvia; Porzio, William; Meinardi, Francesco; Tubino, Riccardo; Salerno, Giuseppe
 CORPORATE SOURCE: Istituto per lo Studio delle Macromolecole, CNR, Milan, I-20133, Italy
 SOURCE: Macromolecules (2003), 36(2), 273-275
 CODEN: MAMOBX; ISSN: 0024-9297
 PUBLISHER: American Chemical Society
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 IT 488701-86-6 488701-87-7
 RL: PRP (Properties)
 (novel erbium-substituted oligothiophene chelates for IR emission)
 RN 488701-86-6 HCAPLUS
 CN [2,2':5',2''-Terthiophene]-3',4'-diacetic acid, erbium(3+) sodium salt (2:1:1) (9CI) (CA INDEX NAME)

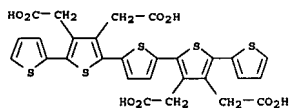


● 1/2 Er(III)

● 1/2 Na

RN 488701-87-7 HCAPLUS
 CN [2,2':5',2''-Terthiophene]-3',4'-diacetic acid, erbium(3+) sodium salt (2:1:1) (9CI) (CA INDEX NAME)

L16 ANSWER 24 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)

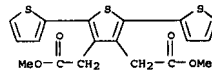


● 1/2 Er(III)

● 5/2 Na

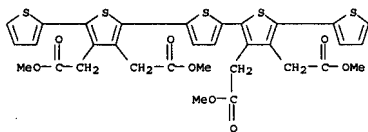
REFERENCE COUNT: 14 THERE ARE 14 CITED REFERENCES AVAILABLE FOR THIS
 RECORD. ALL CITATIONS AVAILABLE IN THE RE
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L16 ANSWER 25 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN
 ED Entered STN: 05 Nov 2002
 AB The regioregular polyalkylthiophene reported in this contribution was electrochem. synthesized starting from a 3,4-bis(methoxyacetyl)terthiophene and carefully characterized. Luminescence anal. gave, both in solution and in films, very appreciable quantum yield values and LED devices realized with Ca cathode provided a value of red electroluminescence comparable with those of regioregular poly(3-alkylthiophene)s in the monolayer active material architecture, while if a blend with poly-N-vinylcarbazole and 2-(4-t-butyl-phenyl)-5-(4-biphenyl)-1,3,4-oxadiazole constitutes the active layer a white emission is observed.
 ACCESSION NUMBER: 2002:838317 HCAPLUS
 DOCUMENT NUMBER: 138:262345
 TITLE: A new soluble poly(bithiophene)-co-3,4-di(methoxycarbonyl)methyl thiophene for LED
 AUTHOR(S): Destri, Silvia; Giovanella, Umberto; Fazio, Alessia; Porzio, William; Gabriele, Bartolo; Zotti, Gianni
 CORPORATE SOURCE: Istituto per lo Studio delle Macromolecole, CNR, Milan, 20133, Italy
 SOURCE: Organic Electronics (2002), 3(3-4), 149-156
 CODEN: OERLAW; ISSN: 1566-1199
 PUBLISHER: Elsevier Science B.V.
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 IT 220653-51-0P, 3',4'-Bis(methoxyacetyl)-2,2':5',2''terthiophene
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (bromination and Stille coupling with (tributylstannyl)thiophene)
 RN 220653-51-0 HCAPLUS
 CN [2,2':5',2''-Terthiophene]-3',4'-diacetic acid, dimethyl ester (9CI) (CA INDEX NAME)



IT 220653-53-2P, 3',4',3''',4''''-Tetrakis(methoxyacetyl)-2,2':5',2''':5'',2''''-quinguiethiophene
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (bromination and Stille coupling with (tributylstannyl)thiophene)
 RN 220653-53-2 HCAPLUS
 CN [2,2':5',2''':5'',2''''-Quinguiethiophene]-3',3''',4',4''''-tetraacetic acid, tetramethyl ester (9CI) (CA INDEX NAME)

L16 ANSWER 25 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)

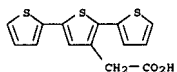


REFERENCE COUNT: 15 THERE ARE 15 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE REFORMAT

L16 ANSWER 26 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN

ED Entered STN: 09 Aug 2002
 AB Herein we describe the preparation of intrinsically conducting poly(thiophene) via two different routes: solution- and solid-state crosslinking of terthiophene moieties. The solution-state crosslinking of terthiophene moieties was performed using conventional electrochem. polymerization in which insol. cross-linked polymer was precipitated onto the electrode from electrolyte solution of the monomer by oxidative coupling of terthiophene units in the monomer.
 5-norbornene-endo-2,3-bis(methylene-3'-[2,2':5',2'']-terthiophene acetate). In the alternative route, a precursor polymer, poly(norbornylene), prepared from the ring-opening metathesis polymerization (ROMP) of 5-norbornene-endo-2,3-bis(methylene-3'-[2,2':5',2'']-terthiophene acetate), was coated on either a conducting or insulating surface, and then the terthiophene units were cross-linked to form intrinsically conductive polymer (ICP) via electrochem. and chemical oxidation, resp.
 More highly conjugated ICP was observed by performing oxidative crosslinking of the polymer in the solid state, in contrast to the cross-linked intrinsically conducting polymer prepared via electrochem. polymerization of 5-norbornene-endo-2,3-bis(methylene-3'-[2,2':5',2'']-terthiophene acetate) from solution Elec. conductivities for the polymers obtained via solid-state chemical oxidative crosslinking were on the order of 1×10^{-3} S/cm.
 ACCESSION NUMBER: 2002:590573 HCAPLUS
 DOCUMENT NUMBER: 137:233030
 TITLE: Intrinsically Conducting Polymer Networks of Poly(thiophene) via Solid-State Oxidative Cross-Linking of a Poly(norbornylene) Containing Terthiophene Moieties
 AUTHOR(S): Jang, Sung-Yeon; Sotzing, Gregory A.; Marquez, Manuel
 CORPORATE SOURCE: Department of Chemistry, Polymer Program Institute of Materials Science, University of Connecticut, Storrs, CT, 06269, USA
 SOURCE: Macromolecules (2002), 35(19), 7293-7300
 CODEN: MAMOBX, ISSN: 0024-9297
 PUBLISHER: American Chemical Society
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 IT 163463-81-8
 RL: RCT (Reactant); RACT (Reactant or reagent) (chlorination and reaction with norbornenedimethanol)
 RN 163463-81-8 HCAPLUS
 CN [2,2':5',2'']-Terthiophene]-3'-acetic acid (9CI) (CA INDEX NAME)

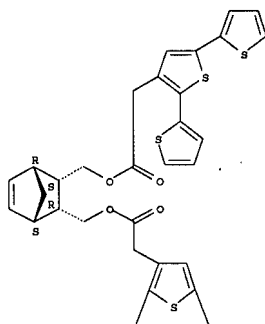
L16 ANSWER 26 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)



IT 426815-40-9P
 RL: SPN (Synthetic preparation); PREP (Preparation) (preparation and characterization of)
 RN 426815-40-9 HCAPLUS
 CN [2,2':5',2'']-Terthiophene]-3'-acetic acid, (1R,2S,3R,4S)-bicyclo[2.2.1]hept-5-ene-2,3-diylbis(methylene) ester, homopolymer (9CI) (CA INDEX NAME)
 CM 1
 CRN 426815-39-6
 CMF C37 H30 O4 S6

Relative stereochemistry.

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L16 ANSWER 26 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)

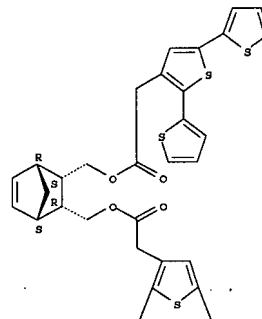
PAGE 2-A



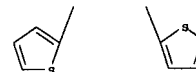
IT 426815-39-6P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent) (preparation and polymerization of)
 RN 426815-39-6 HCAPLUS
 CN [2,2':5',2'']-Terthiophene]-3'-acetic acid, (1R,2S,3R,4S)-bicyclo[2.2.1]hept-5-ene-2,3-diylbis(methylene) ester, rel- (9CI) (CA INDEX NAME)

Relative stereochemistry.

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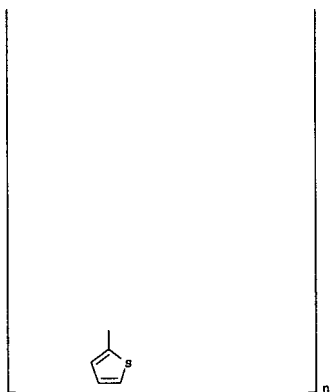
PAGE 2-A



IT 426815-41-0P

L16 ANSWER 26 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)
 RL: CPS (Chemical process), PEP (Physical, engineering or chemical process), SPN (Synthetic preparation), PREP (Preparation), PROC (Process) (prepn. by ring-opening metathesis polymn. and electrochem. crosslinking of)
 RN 426815-41-0 HCAPLUS
 CN Poly[[[4R,5R]-4,5-bis[[[2,2':5',2''-terthiophen]-3'-ylacetyl]oxy]methyl]-1,3-cyclopentenediyl]-1,2-ethenediyl], rel- (9CI) (CA INDEX NAME)

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *



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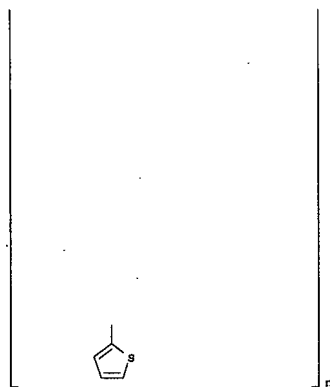
REFERENCE COUNT: 31 THERE ARE 31 CITED REFERENCES AVAILABLE FOR THIS
 FORMAT RECORD. ALL CITATIONS AVAILABLE IN THE RE

L16 ANSWER 27 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN
 ED Entered STN: 29 Jul 2002
 AB We have utilized a poly(norbornylene) functionalized with pendent terthiophene moieties to achieve ICP crosslink units via solid-state electrochem. coupling. With this system, we are able to process thin films of polynorbornylene on numerous conducting and insulating substrates since this precursor to an ICP readily dissolves in common solvents such as methylene chloride, chloroform, toluene, etc. The precursor polymer does not dissolve, but only swells, in acetonitrile, and therefore solid-state preparation of ICP via oxidative coupling of pendent terthiophene units using either electrochem. oxidation and/or chemical oxidants is accomplished. Utilizing both the solution-processability of the precursor poly(norbornylene) and solid-state ICP crosslinking, facile patterning of ICP on numerous substrates was achieved. For example, an inter-digitated pattern of 10 μ dimensions was burnt into the poly(norbornylene) precursor film.

ACCESSION NUMBER: 2002:559991 HCAPLUS
 DOCUMENT NUMBER: 137:233028
 TITLE: Oxidative solid-state crosslinking of polymer precursors to pattern intrinsically conducting polymers
 AUTHOR(S): Sotzing, Gregory A.; Jang, Sung-Yeon; Marquez, Manuel
 CORPORATE SOURCE: Department of Chemistry and the Polymer Program, Institute of Materials Science, University of Connecticut, Storrs, CT, 06269, USA
 SOURCE: PMSE Preprints (2002), 87, 371-372
 CODEN: PPMRA9; ISSN: 1550-6703
 PUBLISHER: American Chemical Society
 DOCUMENT TYPE: Journal, (computer optical disk)
 LANGUAGE: English
 IT 426815-41-0P
 RL: CPS (Chemical process), PEP (Physical, engineering or chemical process), SPN (Synthetic preparation), PREP (Preparation), PROC (Process) (preparation by ring-opening metathesis polymerization and electrochem. crosslinking of)
 RN 426815-41-0 HCAPLUS
 CN Poly[[[4R,5R]-4,5-bis[[[2,2':5',2''-terthiophen]-3'-ylacetyl]oxy]methyl]-1,3-cyclopentenediyl]-1,2-ethenediyl], rel- (9CI) (CA INDEX NAME)

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

L16 ANSWER 27 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)



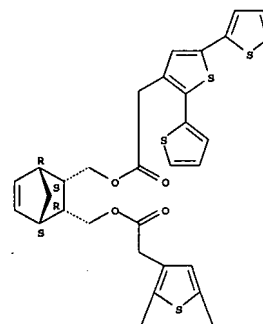
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IT 426815-40-9P
 RL: SPN (Synthetic preparation), TEM (Technical or engineered material use), PREP (Preparation), USES (Uses) (preparation by ring-opening metathesis polymerization of bis(terthienyl)norbornylene monomer followed by electrochem. crosslinking)
 RN 426815-40-9 HCAPLUS
 CN [2,2':5',2''-Terthiophene]-3'-acetic acid, (1R,2S,3R,4S)-bicyclo[2.2.1]hept-5-ene-2,3-diylbis(methylene) ester, homopolymer (9CI) (CA INDEX NAME)
 CM 1
 CRN 426815-39-6
 CMP C37 H30 O4 S6

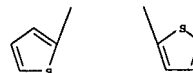
Relative stereochemistry.

L16 ANSWER 27 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)

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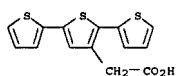


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REFERENCE COUNT: 12 THERE ARE 12 CITED REFERENCES AVAILABLE FOR THIS
 FORMAT RECORD. ALL CITATIONS AVAILABLE IN THE RE

L16 ANSWER 28 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN
 ED Entered STN: 27 Mar 2002
 AB A monomer containing norbornene with 2 terthiophene units was prepared by treating 2,5-bis(2-thienyl)-3-thiophene acetic acid with oxalyl chloride followed by treatment with 5-norbornene-2-endo,3-endo-dimethanol. Ring-opening metathesis polymerization and electrochem. crosslinking of the polymer were carried out. The first oxidative process for the terthiophene occurred at the same potential as that for the polymerization of monomer from solution, whereas, the second oxidative process occurred at approx. 0.1 V higher.
 ACCESSION NUMBER: 2002:232233 HCAPLUS
 DOCUMENT NUMBER: 136:386520
 TITLE: Poly(terthiophene) networks via electrochemical crosslinking of terthiophene derivatized norbornylene monomers and polymers
 AUTHOR(S): Jang, Sung-Yeon; Clark, Maxwell; Sotzing, Gregory A.
 CORPORATE SOURCE: Department of Chemistry and the Polymer Program, Institute of Materials Science, University of Connecticut, Storrs, CT, 06269, USA
 SOURCE: PMSE Preprints (2002), 86, 205-206
 CODEN: PPMRA9; ISSN: 1550-6703
 PUBLISHER: American Chemical Society
 DOCUMENT TYPE: Journal, (computer optical disk)
 LANGUAGE: English
 IT 163463-81-8
 RL: RCT (Reactant); RACT (Reactant or reagent) (chlorination and reaction with norbornenedimethanol)
 RN 163463-81-8 HCAPLUS
 CN [2,2':5',2''-Terthiophene]-3'-acetic acid (9CI) (CA INDEX NAME)

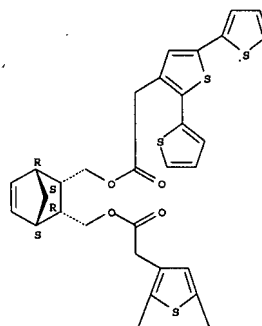


IT 426815-40-9P
 RL: SPN (Synthetic preparation); PREP (Preparation) (preparation and characterization of)
 RN 426815-40-9 HCAPLUS
 CN [2,2':5',2''-Terthiophene]-3'-acetic acid, (1R,2S,3R,4S)-bicyclo[2.2.1]hept-5-ene-2,3-diylbis(methylene) ester, homopolymer (9CI) (CA INDEX NAME)
 CM 1
 CRN 426815-39-6
 CMP C37 H30 O4 S6

Relative stereochemistry.

L16 ANSWER 28 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)

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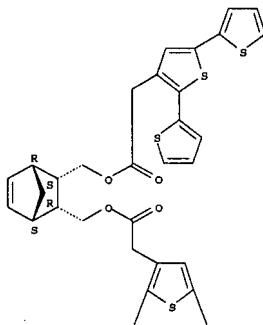


IT 426815-39-6P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent) (preparation and polymerization of)
 RN 426815-39-6 HCAPLUS
 CN [2,2':5',2''-Terthiophene]-3'-acetic acid, (1R,2S,3R,4S)-bicyclo[2.2.1]hept-5-ene-2,3-diylbis(methylene) ester, rel- (9CI) (CA INDEX NAME)

Relative stereochemistry.

L16 ANSWER 28 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)

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IT 426815-41-0P
 RL: CPS (Chemical process); PREP (Physical, engineering or chemical process); SPN (Synthetic preparation); PREP (Preparation); PROC (Process) (preparation by ring-opening metathesis polymerization and electrochem. crosslinking of)
 RN 426815-41-0 HCAPLUS
 CN Poly[[(4R,5S)-4,5-bis[[[(2,2':5',2''-terthiophen)-3'-ylacetyl]oxy]methyl]-1,3-cyclopentenediyl]-1,2-ethenediyl], rel- (9CI) (CA INDEX NAME)

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

L16 ANSWER 28 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)

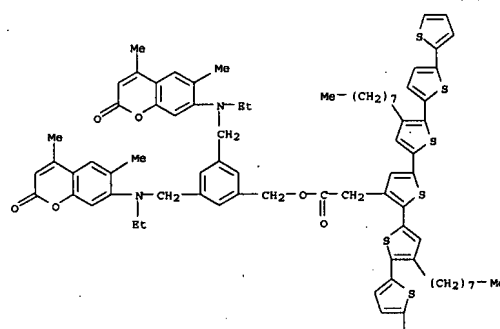
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REFERENCE COUNT: 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE
 FORMAT

116 ANSWER 29 OF 37 HCAPLUS COPYRIGHT 2007 ACS ON STN
BD Entered STM: 30 Jan 2001
AB Dendrimers possessing coumarin 2 dyes at the periphery, and either a
coumarin 343 or a heptaphenylene dye at the core, have been studied by
femtosecond transient absorption spectroscopy in order to elucidate
energy-transfer rate consts. These measurements indicated that energy
transfer occurs with average correlation times of less than 6 ps in the
first three generations, and slows to a correlation time of approx. 18 ps in
the fourth. The transient spectral features arising from excitation of the
peripheral donor chromophores at 330 nm are described. Addnl., these
measurements provide a quant. comparison between observed and theor.
energy-transfer rate consts., indicating a close correlation of the
exptl. results with Foerster theory.
ACCESSION NUMBER: 2001:67060 HCAPLUS
DOCUMENT NUMBER: 134:282119
TITLE: Femtosecond transient absorption studies of energy
transfer within chromophore-labeled dendrimers
AUTHOR(S): Neuwahl, Frederik V. R.; Righini, Roberto; Adronov,
Alex; Malenfant, Patrick R. L.; Fréchet, Jean M. J.
CORPORATE SOURCE: Department of Chemistry and UENS, University of
Florence, Florence, 50125, Italy
SOURCE: Journal of Physical Chemistry B (2001), 105(7),
1307-1312
CODEN: JPCBFX; ISSN: 1089-5647
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
IT 272115-66-9 272115-68-1 272115-69-2
RL: PRP (Properties)
(femtosecond transient absorption studies of energy transfer within
chromophore-labeled dendrimers)
RN 272115-66-9 HCAPLUS
CN (2,2',5',2'',5'',2''',5''',2''''',5''''',2''''',2''''',2''''',2''''',
Septiphenylphenyl-3''-acetic acid, 3'',4''''-diocetyl-, [3,5-bis[[4,6-
diethyl-2-oxo-2H-1-benzopyran-7-yl]ethylamino]methyl]phenyl]methyl est
(9CI) (CA INDEX NAME)

L16 ANSWER 29 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)

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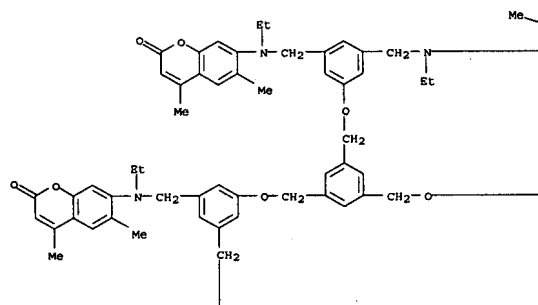
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RN      272115-68-1 HCAPIUS
CN      (2,2'·5',2''·5'',2'''·5''',2''''·5''''·2'''''·
        Septithiophene)-3'''-acetic acid, 3'',4''''-diocetyl-, [3,5-bis([3,5-
        bis([(4,6-dimethyl-2-oxo-2H-1-benzopyran-7-yl)ethylamino]methyl]phenoxy)methyl]phenyl)methyl ester (SCI), (CA INDEX NAME)

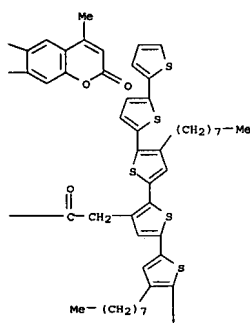
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L16 ANSWER 29 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)

PAGE 1-A

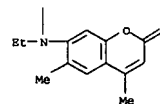


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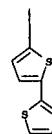


L16 ANSWER 29 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)

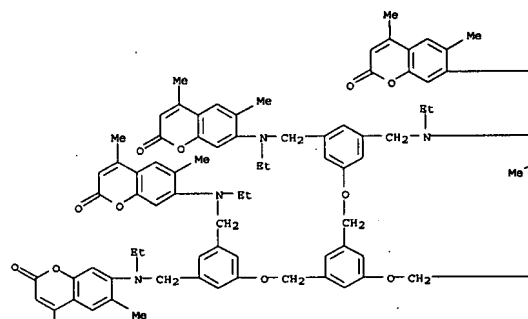
PAGE 2-A



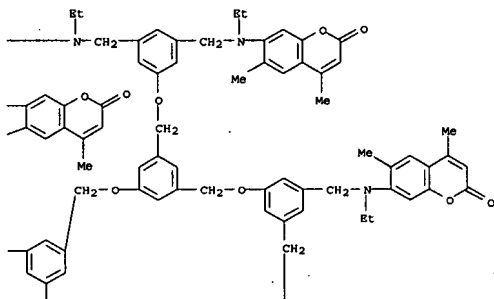
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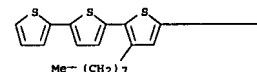
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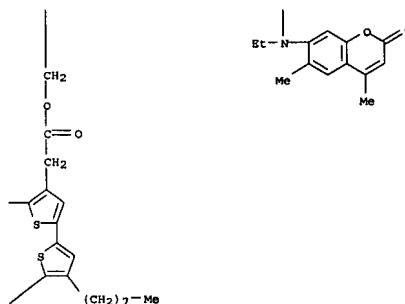
PAGE 1-B



PAGE 2-A



PAGE 2-B



PAGE 3-A



REFERENCE COUNT: 15 THERE ARE 15 CITED REFERENCES AVAILABLE FOR
THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE
FORMAT

ED Entered STN: 09 Jul 2000

AB The redox states of a series of well-defined hybrid dendrimers based on
oligothiophene cores and poly(benzyl ether) dendrons have been studied
using cyclic voltammetry and variable-temperature UV/visible/near-IR
spectroscopy. The oxidation potentials and the electronic transitions
of the neutral, singly oxidized, and doubly oxidized states of these novel
hybrid materials have been determined as a function of oligothiophene
conjugation length varying between 4 and 17 repeat units. The attachment of
poly(benzyl ether) dendritic wedges at the termini of these lengthy
oligothiophenes considerably enhances their solubility, thus enabling
the first detailed investigation of the electronic structure of oligothiophenes
having 11 and 17 repeat units with minimal β -substitution. In the
case of the undecamer and heptadecamer, we find that the dicationic state
consists of two individual polaron, rather than a single bipolaron. The
effect of the dendritic poly(benzyl ether) solubilizers on the properties
of the redox states varies with the oligothiophene length and dendron
size. More specifically, we observe a kinetic limit to the electrochem.
oxidation of the oligothiophene core when the dendron is large compared
to

the electrophoresis. Finally, we have observed the first example of self-complexation of cation radicals via n-dimerization leading to the formation of dendritic supramol. assemblies.

ACCESSION NUMBER: 2000:457921 HCAPLUS

DOCUMENT NUMBER: 133:193729

TITLE: Redox States of Well-Defined π -Conjugated Oligothiophenes Functionalized with Poly(benzyl ether)

Dendrons

AUTHOR(S): Apperloo, Joke J.; Janssen, Rene A. J.; Malenfant, Patrick R. L.; Groenendaal, Lambertus; Frechet, Jean M. J.

CORPORATE SOURCE: Laboratory for Macromolecular and Organic Chemistry, Eindhoven University of Technology, Eindhoven, 5600 MB, Neth.

SOURCE: Journal of the American Chemical Society (2000), 122(29), 7042-7051

CODEN: JACSAT; ISSN: 0002-7863

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal

LANGUAGE: English

IT 256662-54-1 256662-55-2

RL: FRP (Properties)
(redox states of π -conjugated oligothiophenes functionalized with poly(benzyl ether) dendrons)

RN 256662-54-1 HCAPLUS

CN [2,2':5'',5'']₂[2,5':2'',5'']₂[2,5':2'',5'']₂[2,5':2'',5'']₂[2,5':2'',5'']₂[2,5':2'',5'']₂

[2,5':2'',5'']₂[2,5':2'',5'']₂-Novithiophene]-3'''-acetic acid,
[2-(phenylmethoxy)-1-[[(phenylmethoxy)methyl]ethoxy]methyl]-2-[[2-(phenylmethoxy)-1-[[(phenylmethoxy)methyl]ethoxy]methyl]propyl ester (9CI)

(CA INDEX NAME)

Young, Shawquia, Page 28

PAGE 2-A

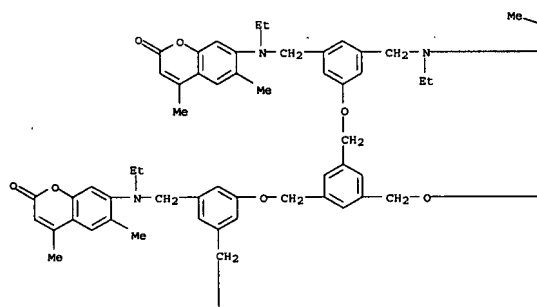


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RN      272115-68-1  HCAPLUS
CN      [2,2':5'',2'':5'',5'':5'',2'':5'',2'':5'',2'':5'',2'':5''-
      Septithiophene]-3'''-acetic acid, 3'',4'''-diioctyl-, [3,5-bis[[3,5-
      bis[[4,6-dimethyl-2-oxo-2H-1-benzopyran-7-yl)ethylamino]methoxy]me-
      thyl]phenyl]methyl ester (9CI) (CA INDEX NAME)

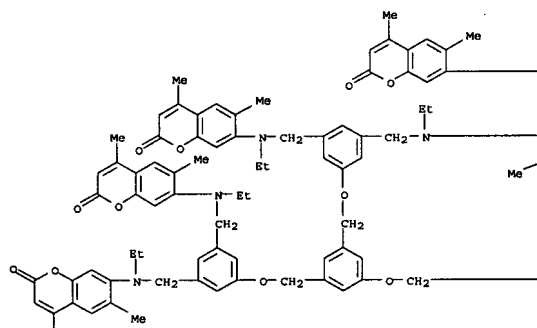
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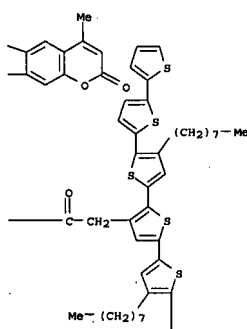
L116 ANSWER 32 OF 57 HCAPULSH COPYRIGHT 2007 ACS ON STN (Continued)
CN [2,5'-bis[[4,6-dimethyl-2-oxo-2H-1-benzopyran-7-yl]ethylamino]methyl]phenoxy)methyl]phenoxy)methyl]phenyl)methyl ester
(9CI) (CA INDEX NAME)

PAGE 1-A

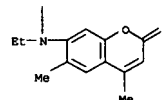


L16 ANSWER 32 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)

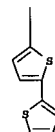
PAGE 1-B



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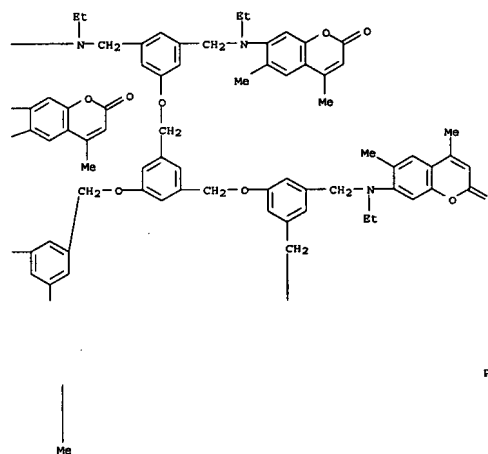
PAGE 2-B



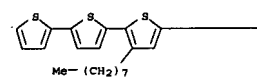
RN 272115-69-2 HCAPLUS

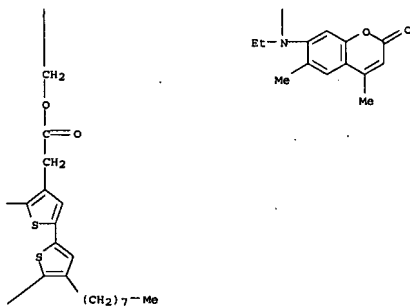
L16 ANSWER 32 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)

PAGE 1-B

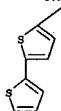


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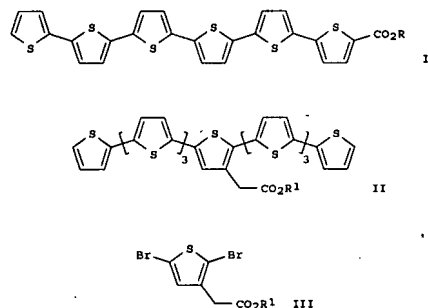


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IT      272115-63-6P
        RL: SPN (Synthetic preparation); PREP (Preparation)
           (synthesis and steady-state photophys. properties of dye-labeled
           dendrimers having novel oligothiophene cores)
RN      272115-63-6 HCAPLUS
CN
CN
[2,'2','5','2','5','2','5','2','5','2','5','2','5','2','5','2','5','2','5'
Undecathiophene]-3'-acetic acid,
3',3''-hexaoctyl-, phenylmethyl ester (9CI)    (CA INDEX NAME)

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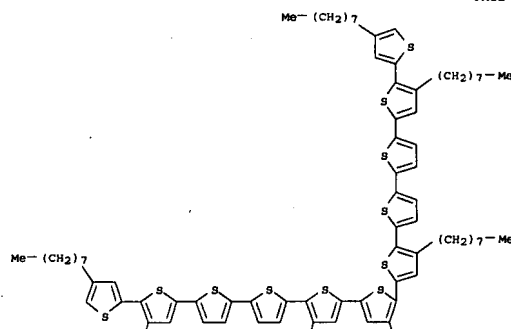
L16 ANSWER 33 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN
ED Entered STN: 01 Dec 1999
GI



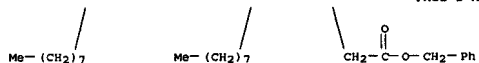
AB oligothiophenes such as I ($R = CH_2CH[CH_2OCH_2CH_2CH_2OCH_2CH_2CH_2OCH_2Bn]_2]_2$) and II ($R_1 = CH_2CH[CH_2OCH_2CH_2CH_2OCH_2Bn]_2$) with pendant dendrimers are prepared by bromination and coupling procedures analogous to unsubstituted oligothiophenes while exhibiting enhanced solubility relative to unsubstituted thiophenes. E.g., coupling of the third-generation dendrimer with 2,2'-bithiophene-5-carbonyl chloride give a dendrimeric ester which was regioselectively brominated with NBS in DMF in 92% yield, coupled with 2,2'-bithien-5-yltrimethylstannane in the presence of a palladium catalyst in 66% yield, and the product subjected to a second bromination-coupling cycle to give I in 5 steps. E.g., digominothiophene ester III ($R_1 = CH_2CH[CH_2OCH_2CH_2CH_2OCH_2Bn]_2$) was coupled with 2,2'-bithien-5-yltrimethylstannane in the presence of a palladium catalyst in 89% yield followed by bromination and a second coupling with 2,2'-bithien-5-yltrimethylstannane to give II in 3 steps. The stability of the dendrimers to bromination conditions allows for facile extension of oligothiophenes and easier purification of the resulting oligothiophenes. Oligothiophenes such as II with the dendrimer near the middle of the oligothiophene chain show greater oxidative stability than terminally substituted dendrimeric oligothiophenes such as I. The monodendrimer-substituted oligothiophenes show longer wavelength absorptions than soluble dendrimers substituted with multiple alkyl groups indicating that the monosubstituted oligothiophenes have a conformation with more extended conjugation than multiply-substituted oligothiophenes.

Young, Shawquia, Page 30

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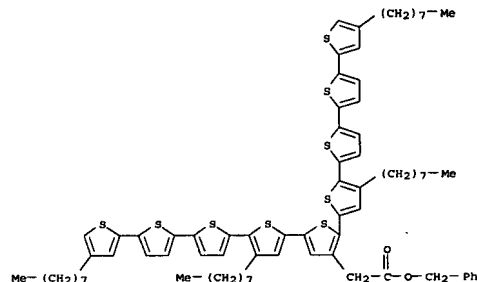
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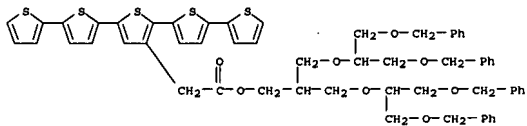
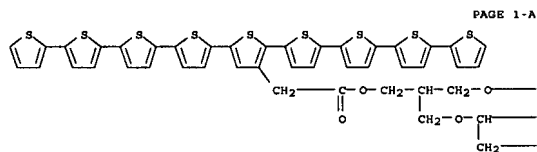
L16 ANSWER 33 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)
with similar soly.

ACCESSION NUMBER: 1999:757906 HCAPLUS
DOCUMENT NUMBER: 132:137231
TITLE: Dendrimer-Supported Oligothiophene Synthesis:
Aliphatic Ether Dendrimers in the Preparation of
Oligothiophenes with Minimal Substitution
AUTHOR(S): Molenfant, Patrick R. L.; Jayaraman, Manikandan;
Frochet, Jean M. J.
CORPORATE SOURCE: Department of Chemistry, University of California,
Berkeley, CA, 94720-1460, USA
SOURCE: Chemistry of Materials (1999), 11(12), 3420-3422
CODEN: CMATEX; ISSN: 0897-4756
PUBLISHER: American Chemical Society
JOURNAL TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 132:137231
IT 256662-55-2
RL: PRP (Properties)
with (alkyl-substituted oligothiophene UV absorption and the comparison
monodendritic substituted oligothiophene derivative UV absorption)
RN 256662-55-2 HCAPLUS
CN
[2,2':5,2'::5'',2''::5'''::5''''::5'''''::5''''''::5'''''''::5''''''']
3'-acetic acid,
3',4',4''::4''''::tetraoctyl-, phenylmethyl ester (SCI) (CA INDEX
NAME)

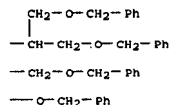


IT 256662-52-9P
RL PRP (Properties), RCT (Reactant), SPN (Synthetic preparation), PREP
(Preparation), RACT (Reactant or reagent)
RN (Preparation of dendrimer-substituted oligothiophenes)
256662-52-9 HCAPIUS
CN [2,2',5',2'',5'',2''',5''',2''''',Quinquethiophene]-3''-acetic acid,
3-[2-(phenylmethoxy)-1-[phenylmethoxy]methyl]ethoxy]-2-[[2-
(phenylmethoxy)-1-[phenylmethoxy]methyl]ethoxy]methyl propyl ester (9CI)

L16 ANSWER 33 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)

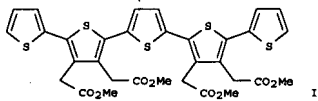
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PAGE 1-B



IT 256662-53-0P
RL: RCT (Reactant), SPN (Synthetic preparation), PREP (Preparation), RACT

L16 ANSWER 34 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN
ED Entered STN: 26 Jan 1999
GI



AB The synthesis of 3,4-bis((methoxycarbonyl)methyl)thiophene and bis-, ter- and pentathiophenes with alternating 3,4-bis((methoxycarbonyl)methyl) substituents, e.g. as reported. These new thiophene derivs. are possible precursors for the preparation of new conducting polymers useful as materials for electronics.

ACCESSION NUMBER: 1999:5

DOCUMENT NUMBER: 130:182314

TITLE: Synthesis

AUTHOR(S) : and bis-, ter- and pentathiophenes with alternating 3,4-bis(methoxycarbonylmethyl) substituted rings
Fazio, Alessia; Gabriele, Bartolo; Salerno, Giuseppe; Nestri, Silvia

CORPORATE SOURCE: Destri, Silvia
Dipartimento di Chimica, Universita della Calabria,
Cosenza, 87030, Italy

SOURCE: Tetrahedron (1999), 55(2), 485-502
CODEN: TETRAB; ISSN: 0040-4020

PUBLISHER: CODEN: TETRAB; ISSN:
Elsevier Science Ltd.

PUBLISHER: Elsevier
DOCUMENT TYPE: Journal

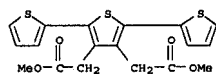
LANGUAGE: English

IT 220653-51-0P 220653-53-2P

RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of bis[(methoxycarbonyl)methyl]thion

and pentathiophenes with alternating bis[(methoxycarbonyl)methyl] substituted rings)

RN 220653-51-0 HCAPLUS
CN [2,2':5',2''-Terthiophene]-3',4'-diacetic acid, dimethyl ester (9CI) (CA
INDEX NAME)



RN 220653-53-2 HCAPLUS
CN [2,2':5',2'':5'',2''':5''',2''''-Quinquethiophene]-3',3''',4',4''''-tetraacetic acid, tetramethyl ester (9CI) (CA INDEX NAME)

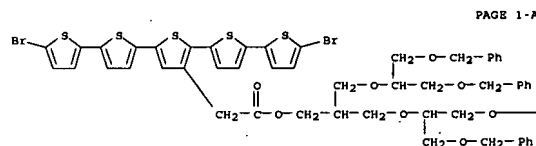
L16 ANSWER 33 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)
(Reactant or reagent)
(prepn. of dendrimer-substituted oligothiophenes)

RN 256662-53-0 HCAPLUS

CN [2,2':5',2'':5'',2''':5''',2''''-Quinquethiophene)-3''-acetic acid,
5,5,11,11-tetramethyl-

5,5'-dibromo-,
3-[2-(phenylmethoxy)-1-[(phenylmethoxy)methyl]ethoxy]-2-

3-[2-(phenylmethoxy)-1-[(phenylmethoxy)methyl]ethoxy]-2-
[[2-(phenylmethoxy)-1-[(phenylmethoxy)methyl]ethoxy]methyl]propyl ester
(9CI) (CA INDEX NAME)



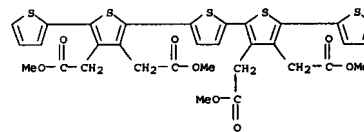
PAGE 1-A

PAGE 1 - B

$$-\text{CH}_2-\text{Ph}$$

REFERENCE COUNT: 33 THERE ARE 33 CITED REFERENCES AVAILABLE FOR
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REFERENCE COUNT: 32 THERE ARE 32 CITED REFERENCES AVAILABLE FOR
THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE
FORMAT



REFERENCE COUNT: 32 THERE ARE 32 CITED REFERENCES AVAILABLE FOR
THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE
FORMAT

FORMAT

FORMAT

L16 ANSWER 35 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN

ED Entered STN: 09 Apr 1996

AB Novel activated ester-functionalized oligothiophenes were obtained by electropolymerization using potentiodynamic cyclic voltammetry. The resulting conducting polymers could be easily surface modified, e.g. by anchoring 2-aminoethoxymethylferrocene from solution, and were characterized by cyclic

voltammograms and FTIR spectra.

ACCESSION NUMBER: 1996:202724 HCAPLUS

DOCUMENT NUMBER: 125:34293

TITLE: Post-polymerization functionalization of conducting polymers. Novel poly(alkylthiophene)s substituted

with

easy replaceable activated ester groups
AUTHOR(S): Baeuerle, Peter; Hiller, Markus; Scheib, Stefan;
Sokolowski, Moritz; Umbach, Eberhard
CORPORATE SOURCE: Inst. Org. Chem., Univ. Wuerzburg, Wuerzburg,
D-97074,

SOURCE: Germany
Advanced Materials (Weinheim, Germany) (1996), 8(3),
214-18
CODEN: ADVMEW; ISSN: 0935-9648

PUBLISHER: VCH

DOCUMENT TYPE: Journal

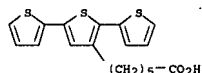
LANGUAGE: English

IT 178183-07-8P

RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(intermediate; monomer preparation and one-step post-polymerization-functionalization poly(alkylthiophene)s substituted with activated ester groups)

RN 178183-07-8 HCAPLUS

CN [2,2':5',2''-Terthiophene]-3'-hexanoic acid (9CI) (CA INDEX NAME)



IT 178183-09-0DP, reaction products with 2-aminoethoxymethylferrocene

178183-09-0P

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(monomer preparation and one-step

post-polymerization-functionalization

poly(alkylthiophene)s substituted with activated ester groups)

RN 178183-09-0 HCAPLUS

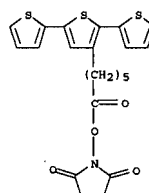
CN 2,5-Pyrrolidinedione, 1-[(1-oxo-6-[2,2':5',2''-terthiophen]-3'-ylhexyl)oxy]-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 178183-08-9

CMF C22 H21 N O4 S3

L16 ANSWER 35 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)



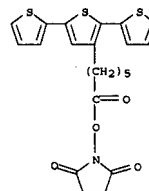
RN 178183-09-0 HCAPLUS

CN 2,5-Pyrrolidinedione, 1-[(1-oxo-6-[2,2':5',2''-terthiophen]-3'-ylhexyl)oxy]-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 178183-08-9

CMF C22 H21 N O4 S3



IT 178183-08-9P

RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(monomer, monomer preparation and one-step

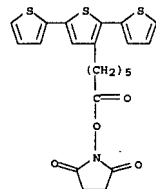
post-polymerization-functionalization

poly(alkylthiophene)s substituted with activated ester groups)

RN 178183-08-9 HCAPLUS

CN 2,5-Pyrrolidinedione, 1-[(1-oxo-6-[2,2':5',2''-terthiophen]-3'-ylhexyl)oxy]- (9CI) (CA INDEX NAME)

L16 ANSWER 35 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)



L16 ANSWER 36 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN

ED Entered STN: 07 Jun 1995

AB A photochromic spironaphthoxazine group was covalently bonded in the 3 position of thiophene and in the 3' position of terthiophene. The electrochem. and spectroscopic properties of these compds. were characterized, together with their photochromic properties, associated

with the ring opening of the naphthoxazine moiety under light excitation, which

occurs in solution and even in the solid state of these compds.

Electropolymerization into spironaphthoxazine functionalized poly(thiophenes)

was only successful with the terthiophene derivative, due to the relief of

steric hindrance and electronic effects on the thiophene units in this compound

The much lower photochromic properties of terthiophene homopolymer are

associated with the compactness of this polymer.

ACCESSION NUMBER: 1995:591996 HCAPLUS

DOCUMENT NUMBER: 122:315258

TITLE: Synthesis and Characterization of Poly(thiophenes) Functionalized by Photochromic Spironaphthoxazine Groups

AUTHOR(S): Yassar, A.; Moustrou, C.; Youssoufi, H. Korri; Samat, A.; Guglielmetti, R.; Garnier, F.

CORPORATE SOURCE: Laboratoire des Matériaux Moléculaires, CNRS, Thiais, 94 320, Fr.

SOURCE: Macromolecules (1995), 28(13), 4548-53

CODEN: MAMOBX; ISSN: 0024-9297

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal

LANGUAGE: English

IT 163463-80-7P, Ethyl 2,2':5',2''-terthiophene-3'-acetate

163463-81-8P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

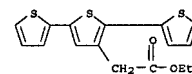
(intermediate in monomer preparation; preparation, characterization,

and electrochem. polymerization of spironaphthoxazine-functionalized

thiophenes)

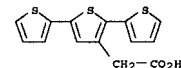
RN 163463-80-7 HCAPLUS

CN [2,2':5',2''-Terthiophene]-3'-acetic acid, ethyl ester (CA INDEX NAME)



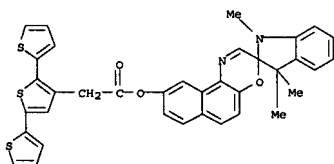
RN 163463-81-8 HCAPLUS

CN [2,2':5',2''-Terthiophene]-3'-acetic acid (9CI) (CA INDEX NAME)

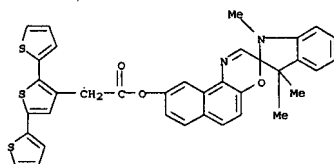


L16 ANSWER 36 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)

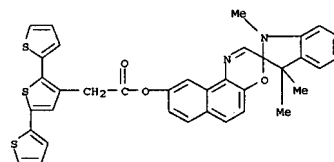
IT 161874-44-8P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (monomer; preparation, characterization, and electrochem. polymerization of spironaphthoxazine-functionalized thiophenes)
 RN 161874-44-8 HCAPLUS
 CN [2,2':5',2''-Terthiophene]-3'-acetic acid, 1,3-dihydro-1,3,3-trimethylspiro[2H-indole-2,3'-[3H]naphth[2,1-b][1,4]oxazin]-9'-yl ester (9CI) (CA INDEX NAME)



IT 161874-45-9P
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation) (preparation, characterization, and electrochem. polymerization of spironaphthoxazine-functionalized thiophenes)
 RN 161874-45-9 HCAPLUS
 CN [2,2':5',2''-Terthiophene]-3'-acetic acid, 1,3-dihydro-1,3,3-trimethylspiro[2H-indole-2,3'-[3H]naphth[2,1-b][1,4]oxazin]-9'-yl ester, homopolymer (9CI) (CA INDEX NAME)
 CM 1
 CRN 161874-44-8
 CMP C36 H28 N2 O3 S3



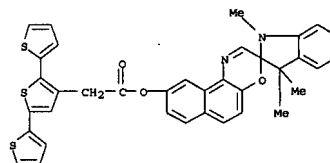
L16 ANSWER 37 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN
 ED Entered STN: 21 Mar 1995
 AB A photochromic spironaphthoxazine group is covalently bonded to the 3'-position of terthienyl and the 3-position of thiophene; electropolymerization into spironaphthoxazine-functionalized polythiophene only occurs with the use of the spironaphthoxazine-terthiophene compound as the monomer.
 ACCESSION NUMBER: 1995:427413 HCAPLUS
 DOCUMENT NUMBER: 122:188348
 TITLE: Synthesis and electropolymerization of terthienyl carrying a photochromic group
 AUTHOR(S): Vassier, Abd errahim; Moustrou, Corrine; Youssoufi, Hafsa Korri, Samat, Andre; Guglielmetti, Robert; Granier, Francis
 CORPORATE SOURCE: Lab. Materiaux Mol., CNRS, Thiais, 94 320, Fr.
 SOURCE: Journal of the Chemical Society, Chemical Communications (1995), (4), 471-2
 CODEN: JCCCAT, ISSN: 0022-4936
 PUBLISHER: Royal Society of Chemistry
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 IT 161874-44-8 161874-45-9
 RL: PRP (Properties); RCT (Reactant); RACT (Reactant or reagent) (preparation and electropolymerization of photochromic spironaphthoxazine containing terthienyl)
 RN 161874-44-8 HCAPLUS
 CN [2,2':5',2''-Terthiophene]-3'-acetic acid, 1,3-dihydro-1,3,3-trimethylspiro[2H-indole-2,3'-[3H]naphth[2,1-b][1,4]oxazin]-9'-yl ester (9CI) (CA INDEX NAME)



RN 161874-45-9 HCAPLUS
 CN [2,2':5',2''-Terthiophene]-3'-acetic acid, 1,3-dihydro-1,3,3-trimethylspiro[2H-indole-2,3'-[3H]naphth[2,1-b][1,4]oxazin]-9'-yl ester, homopolymer (9CI) (CA INDEX NAME)
 CM 1
 CRN 161874-44-8
 CMP C36 H28 N2 O3 S3

L16 ANSWER 36 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)

L16 ANSWER 37 OF 37 HCAPLUS COPYRIGHT 2007 ACS on STN (Continued)



07/08/2007,10531330d.trn

Connecting via Winsock to STN

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LOGINID:SSPTASXY1626

PASSWORD:

* * * * * RECONNECTED TO STN INTERNATIONAL * * * * *
SESSION RESUMED IN FILE 'HCAPLUS' AT 14:33:11 ON 07 AUG 2007
FILE 'HCAPLUS' ENTERED AT 14:33:11 ON 07 AUG 2007
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COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	197.59	1270.77
DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE ENTRY	TOTAL SESSION
CA SUBSCRIBER PRICE	-28.86	-84.24

=> file reg

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	200.19	1273.37
DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE ENTRY	TOTAL SESSION
CA SUBSCRIBER PRICE	-28.86	-84.24

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DICTIONARY FILE UPDATES: 6 AUG 2007 HIGHEST RN 944108-38-7

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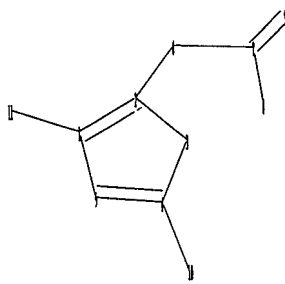
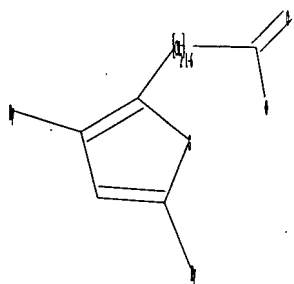
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chain nodes :
6 7 8 9 10 11
ring nodes :
1 2 3 4 5
chain bonds :
1-11 2-6 4-10 6-7 7-8 7-9
ring bonds :
1-5 1-2 2-3 3-4 4-5
exact/norm bonds :
1-5 1-2 1-11 2-3 3-4 4-5 4-10 7-8 7-9
exact bonds :
2-6 6-7

Match level :
1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:CLASS 7:CLASS 8:CLASS 9:CLASS 10:Atom
11:Atom

Generic attributes :

10:
Saturation : Unsaturated
Number of Carbon Atoms : less than 7
Type of Ring System : Monocyclic
11:
Saturation : Unsaturated
Number of Carbon Atoms : less than 7
Number of Hetero Atoms : Exactly 1
Type of Ring System : Monocyclic

Element Count :
Node 11: Limited

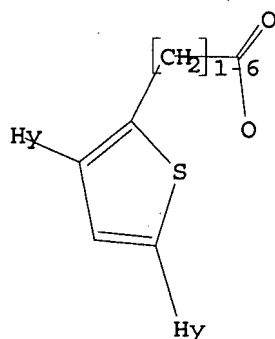
S,S1
C,C4
O,O0
N,N0

L17 STRUCTURE UPLOADED

=> d 117

L17 HAS NO ANSWERS

L17 STR



Structure attributes must be viewed using STN Express query preparation.

=> s l17

SAMPLE SEARCH INITIATED 14:33:53 FILE 'REGISTRY'

SAMPLE SCREEN SEARCH COMPLETED - 5337 TO ITERATE

37.5% PROCESSED 2000 ITERATIONS 0 ANSWERS
INCOMPLETE SEARCH (SYSTEM LIMIT EXCEEDED)
SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS: ONLINE **COMPLETE**
BATCH **COMPLETE**
PROJECTED ITERATIONS: 102360 TO 111120
PROJECTED ANSWERS: 0 TO 0

L18 0 SEA SSS SAM L17

=> s l17 full

FULL SEARCH INITIATED 14:33:57 FILE 'REGISTRY'

FULL SCREEN SEARCH COMPLETED - 106289 TO ITERATE

100.0% PROCESSED 106289 ITERATIONS 6 ANSWERS
SEARCH TIME: 00.00.01

L19 6 SEA SSS FUL L17

=> file caplus

COST IN U.S. DOLLARS	SINCE FILE	TOTAL
	ENTRY	SESSION
FULL ESTIMATED COST	172.10	1445.47
DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE	TOTAL
	ENTRY	SESSION
CA SUBSCRIBER PRICE	0.00	-84.24

FILE 'CAPLUS' ENTERED AT 14:34:04 ON 07 AUG 2007

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FILE LAST UPDATED: 6 Aug 2007 (20070806/ED)

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=> s l19

L20 2 L19.

=> d.ed abs ibib hitstr tot

L20 ANSWER 1 OF 2 CAPLUS COPYRIGHT 2007 ACS on STN
 ED Entered STN: 24 Nov 2005
 GI



AB The 5-membered heterocyclic compds. I (ring A indicates Q1, Q2, or Q3; R1 = (un)substituted aryl; R2 = substituted alkyl; R3 = (un)substituted aryl, (un)substituted heterocyclyl, (un)substituted alkyl; R4 = H, (un)substituted alkyl, when R1 = R3 = Ph, then R2 = carboxymethyl, ethoxycarbonylmethyl) or their pharmacol. acceptable salts are used for high-conductance Ca-sensitive K channel openers, useful for treatment of urinary frequency, urinary incontinence, cerebral infarction, subarachnoid

hemorrhage, etc. Alternatively, the 5-membered heterocyclic compds. I (ring A indicates Q4, Q5, or Q6; R1 = (un)substituted thienyl, aryl substituted with 2 halogen atoms; R2 = substituted alkyl; R3 = (un)substituted aryl, (un)substituted heterocyclyl, (un)substituted alkyl,

R4 = H, (un)substituted alkyl; when R1 = 2-thienyl, then R3 = 2-thienyl) or their pharmacol. acceptable salts are used for high-conductance Ca-sensitive K channel openers. II (prepared in 5 steps from 3-bromo-2-formylfuran) inhibited K+-induced contraction of rabbit bladder samples with IC50 of 50.5 µM.

ACCESSION NUMBER: 2005:1240726 CAPLUS

DOCUMENT NUMBER: 143:472612

TITLE: Use of five-membered heterocyclic compounds for high-conductance calcium-sensitive potassium channel openers

INVENTOR(S): Hosaka, Toshihiro; Kusama, Mari; Oba, Kiyomi; Kono, Rikako; Konoumi, Shuntaro

PATENT ASSIGNEE(S): Tanabe Seiyaku Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 43 pp.

CODEN: JKKXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2005325103	A	20051124	JP 2005-115251	20050413
PRIORITY APPLN. INFO.:			JP 2004-117430	A 20040413

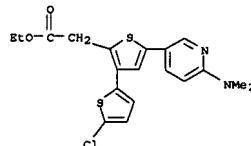
OTHER SOURCE(S): MARPAT 143:472612
 IT 683252-12-2P 683252-14-4P 683252-19-9P
 683252-21-3P

L20 ANSWER 1 OF 2 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)
 RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(prepn. of five-membered heterocyclic compds. for high-conductance calcium-sensitive potassium channel openers)

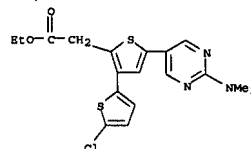
RN 683252-12-2 CAPLUS

CN [2,3'-Bithiophene]-2'-acetic acid, 5-chloro-5'-[6-(dimethylamino)-3-pyridinyl]-, ethyl ester (9CI) (CA INDEX NAME)



RN 683252-14-4 CAPLUS

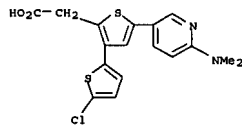
CN [2,3'-Bithiophene]-2'-acetic acid, 5-chloro-5'-[2-(dimethylamino)-5-pyrimidinyl]-, ethyl ester (9CI) (CA INDEX NAME)



RN 683252-19-9 CAPLUS

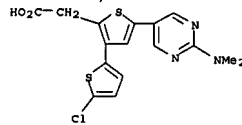
CN [2,3'-Bithiophene]-2'-acetic acid, 5-chloro-5'-[6-(dimethylamino)-3-pyridinyl]-, sodium salt (9CI) (CA INDEX NAME)

L20 ANSWER 1 OF 2 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



● Na

RN 683252-21-3 CAPLUS
 CN [2,3'-Bithiophene]-2'-acetic acid, 5-chloro-5'-[2-(dimethylamino)-5-pyrimidinyl]-, sodium salt (9CI) (CA INDEX NAME)



● Na

L20 ANSWER 2 OF 2 CAPLUS COPYRIGHT 2007 ACS on STN

ED Entered STN: 30 Apr 2004

AB There are disclosed large conductance Ca-activated K channel openers (R1-R3-substituted 5-membered heterocycles (I; e.g.

5-(4-methylthiophenyl)-2-(5-chlorothien-2-yl)furan-3-ylacetic acid sodium salt (II)) containing any

one of O, N or S, which ring may be N-substituted by R4; R1 is aryl, heterocyclic or heterocycle-substituted carbonyl, R2 is H, halogen, carbonyl, amino, alkyl, alkoxy, alkenyl or cycloalkyl; R3 is aryl, heterocyclic or alkyl; and R4 is H or alkyl, each of substituents may be substituted; addnl. details are given in the claims) or a

pharmaceutically acceptable salt thereof as an active ingredient. Although the methods of preparation are not claimed, example preps. and/or characterization data for

approx. 60 examples of I are included. For example, II was prepared in 6 steps (28, 58, not given, 58, 71, not given & yields, resp.) starting with

coupling of 3-formylfuran-2-ylboronic acid with 2-bromo-5-chlorothiophene to give 2-(5-chlorothiophen-2-yl)furan-3-carboxaldehyde, which was converted to Et 2-(5-chlorothiophen-2-yl)furan-3-ylacetate, then Et 2-(5-bromo-2-(5-chlorothiophen-2-yl)furan-3-yl)acetate, then Et 2-(5-(4-methylthiophenyl)-2-(5-chlorothiophen-2-yl)furan-3-yl)acetate using (4-methylthiophenyl)boronic acid, followed by base hydrolysis to the acid followed by conversion to the sodium salt. The relaxation effect on K-induced contraction of isolated rabbit urinary bladder and the inhibitory effect on the rhythmic bladder contractions induced by substance P in anesthetized rats were determined for 8 and 6 examples of

I, resp. Expts. involving iberiotoxin, a selective large conductance calcium

activated K channel blocker, suggest that I have a detrusor relaxing activity through the large conductance calcium activated K channel.

ACCESSION NUMBER: 2004:354933 CAPLUS

DOCUMENT NUMBER: 140:375064

TITLE: Preparation of 5-membered heterocycle-substituted acetic acid derivatives as large conductance calcium-activated K channel openers for pollakiuria or

urinary incontinence

INVENTOR(S): Hosaka, Toshihiro; Kusama, Mari; Oba, Kiyomi; Kono, Rikako; Konoumi, Shuntaro

PATENT ASSIGNEE(S): Tanabe Seiyaku Co., Ltd., Japan

SOURCE: PCT Int. Appl., 90 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004035570	A1	20040429	WO 2003-JP13194	20031015
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, ME, MG, MH, MK, MN, MW, MX, MY, NZ, OM, PG, PH, PL, PT, RU, RO, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW			

L20 ANSWER 2 OF 2 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

CA 2501979 A1 20040429 CA 2003-2501979 20031015
 AU 2003272099 A1 20040504 AU 2003-272099 20031015
 EP 1556376 A1 20050727 EP 2003-754140 20031015

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK

BR 2003015386 A 20050823 BR 2003-15386 20031015
 CN 1705659 A 20051207 CN 2003-80101508 20031015
 JP 2006503111 T 20060126 JP 2005-501348 20031015
 NZ 539902 A 20070531 NZ 2003-539902 20031015
 MX 2005PA03972 A 20050622 MX 2005-PA3972 20050414
 US 2006135597 A1 20060622 US 2005-531330 20050414
 NO 2005002023 A 20050510 NO 2005-2023 20050426

PRIORITY APPLN. INFO.: JP 2002-300860 A 20021015
 JP 2003-104260 A 20030408
 WO 2003-JP13194 W 20031015

OTHER SOURCE(S): MARPAT 140:375064

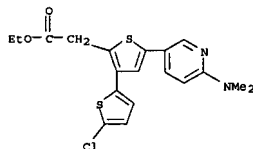
IT 683252-12-2P, Ethyl 3-(5-chlorothiophen-2-yl)-5-[6-(dimethylamino)pyridin-3-yl]thiophene-2-acetate 683252-14-4P, Ethyl 3-(5-chlorothiophen-2-yl)-5-[2-(dimethylamino)pyrimidin-5-yl]thiophene-2-acetate

RL: PAC (Pharmacological activity); RCT (Reactant); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)

(drug candidate; preparation of 5-membered heterocycle-substituted acetic acid derivs. as large conductance calcium-activated K channel openers for pollakiuria or urinary incontinence)

RN 683252-12-2 CAPLUS

CN [2,3'-Bithiophene]-2'-acetic acid, 5-chloro-5'-[6-(dimethylamino)-3-pyridinyl]-, ethyl ester (9CI) (CA INDEX NAME)

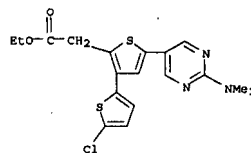


RN 683252-14-4 CAPLUS

CN [2,3'-Bithiophene]-2'-acetic acid, 5-chloro-5'-[2-(dimethylamino)-5-

L20 ANSWER 2 OF 2 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

pyrimidinyl]-, ethyl ester (9CI) (CA INDEX NAME)



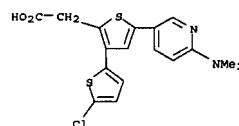
IT 683252-19-9P, 3-(5-Chlorothiophen-2-yl)-5-[6-(dimethylamino)pyridin-3-yl]thiophene-2-acetic acid sodium salt 683252-21-3P, 3-(5-Chlorothiophen-2-yl)-5-[2-(dimethylamino)pyrimidin-5-yl]thiophene-2-acetic acid sodium salt

RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(drug candidate; preparation of 5-membered heterocycle-substituted acetic acid derivs. as large conductance calcium-activated K channel openers for pollakiuria or urinary incontinence)

RN 683252-19-9 CAPLUS

CN [2,3'-Bithiophene]-2'-acetic acid, 5-chloro-5'-[6-(dimethylamino)-3-pyridinyl]-, sodium salt (9CI) (CA INDEX NAME)

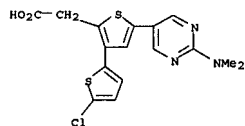


● Na

RN 683252-21-3 CAPLUS

CN [2,3'-Bithiophene]-2'-acetic acid, 5-chloro-5'-[2-(dimethylamino)-5-pyrimidinyl]-, sodium salt (9CI) (CA INDEX NAME)

L20 ANSWER 2 OF 2 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



● Na

REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE

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